

SEQUENCE LISTING

<110> Kletzien, Rolf F  
Reardon, Ilene M  
Weiland, Katherine L

<120> HUMAN CASPASE-12 MATERIALS AND METHODS

<130> 28341/00233

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<141> 2000-05-09

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<170> PatentIn Ver. 2.0

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Gly	Ile	Cys	Gly	Thr	Lys	His	Trp	Asp	Gln	Glu	Pro	Asp	Val	Leu	His	
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Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu	
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Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser	
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Lys Lys Gln Leu Ser Ser Asp Ile Ser Ser Asp Gly Glu Arg Glu Ala	
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Asn Met Pro Gly Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His  
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Gln Ile Ile Tyr Tyr Phe Arg Glu Tyr Ser Trp Ser His His Leu Glu  
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Glu Ile Phe Gln Lys Val Gln His Ser Phe Glu Thr Pro Asn Ile Leu  
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Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80

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85 90 95

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115 120

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Asn Asn Val Leu Asn Thr Asp Glu Ile His Leu Ile Gly Lys Cys Leu  
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Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
50 55 60

Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80

Lys Lys Gln Leu Ser Ser Asp Ile Ser Ser Asp Gly Glu Arg Glu Ala  
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Leu Leu Ile Lys Thr Phe Leu Asp Gly Ile Phe Asp Asp Leu Met Glu  
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Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
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cgt tca aca ttc att tga gac ccc aaa tat act gac cca gct gcc cac Arg Ser Thr Phe Ile Asp Pro Lys Tyr Thr Asp Pro Ala Ala His 275 280 285	864
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Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
50 55 60

Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80

Lys Lys Gln Leu Ser Ser Asp Ile Ser Ser Asp Gly Glu Arg Glu Ala  
85 90 95

Asn Met Pro Gly Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His  
100 105 110

Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Xaa Asp Leu Leu  
115 120 125

Glu Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr Ala Gln  
130 135 140

Glu Met Glu Thr Ala Leu Arg Gln Phe Ala Ala His Pro Glu His Gln  
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Ser Ser Asp Ser Thr Phe Leu Val Phe Met Ser His Ser Ile Leu Asn  
165 170 175

Gly Ile Cys Gly Thr Lys His Trp Asp Gln Glu Pro Asp Val Leu His  
180 185 190

Asp Asp Thr Ile Phe Glu Ile Phe Asn Asn Arg Asn Cys Gln Ser Leu  
195 200 205

Lys Asp Lys Pro Lys Val Ile Ile Met Gln Ala Cys Arg Gly Asn Gly  
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Ala Gly Ile Val Trp Phe Thr Thr Asp Ser Gly Lys Ala Ser Ala Asp  
225 230 235 240

Thr His Gly Arg Leu Leu Gln Gly Asn Ile Cys Asn Asp Ala Val Thr  
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<400> 27  
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<210> 28  
<211> 33  
<212> DNA  
<213> Homo sapiens

<400> 28  
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<210> 29  
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<212> DNA  
<213> Homo sapiens

<400> 29  
gtgatatatcat caaccagggtt ttcaac 26

<210> 30  
<211> 292  
<212> DNA  
<213> Homo sapiens

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ggagccatta cctgagctgt gagattctct ttataacca ctgagtatcc aaggttttca 120  
atgtatctc acatccccaa aaggtcaagt tcagaaccat ttcgattatg aagatagttg 180  
aattctttgt tgcggatgtt gaggccaggc atgttccgcc tctcttc catcaactgga 240  
tatatctgca attaatacac acagaatgac ttccccagg actttctct tt 292

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<211> 686  
<212> DNA  
<213> Homo sapiens

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cagtctgaca tggagtgtca attctaagag gtagtgtaca acgttgagaa gacagaatac 120  
ccatgggctt ggtccttatga aacctgcaaa ctctcttcat tccaggactt tcctgggtca 180  
tggtggaaaga tgctttctga gacttgaaaa gagtcgtatc tcatctatag cctactttct 240  
ttttcaggtt cagcaagcat ttgaaagtcc cgaggcaac agtccaaatg cccaccatag 300  
aacgagtgtc catgacaaga tatttctacc tctttcctgg caattgaaaa tggtaagca 360  
ttgagagttt tggtgggtgt atgaaataaa taaaagtgtg atattggagg tgagttccga 420  
tgaccaatga cagttgagta cttggatggc caaattatgt tactttgtt atgttagtctg 480  
gtgattgatt atctggatc ttttattcga tttttttgc attttgggtt ccccaactc 540  
tataattaat caggcaatca atcaatcaag gacgtaagga aaaccaaggc caaatgagat 600  
aataaaaaac ccagggtagc acttattaaa atagaaacat actcctgcat ccattactat 660  
ttatattcat tacatctcat actctca 686

<210> 32  
<211> 533  
<212> DNA  
<213> Homo sapiens

<400> 32  
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cccattctca cctatcaaataaaatttatttggacttagga tgcaggaagc tctgcttact 120  
aagctttcta ggtgattctt atgcacgtta aaatttggga accactaccc tagaatgggg 180  
atctaaagtt ctgtccatat ctaagattct atcattttca cagatgagaa accatccaac 240  
ggtgttctgg tccacatggt gaagttgctg atcaagacct ttctagatgg cattttgat 300  
gattttagtgg aaaataatgt gttaaataca gatgagatac accttatagg aaaatgtcta 360  
aagtttgggg tgagcaatgc tggaaacctg gttgatgata tcactgagac agctcaaatt 420  
gcaggcaaaa tatttaggga acacctgtgg aattccaaaa aacagctgag ttcaaggtgag 480  
tattgggggc taacagctag aaattcatc ttattcttc tctactcttc tta 533

<210> 33  
<211> 563  
<212> DNA  
<213> Homo sapiens

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cacaaatggt tctccaaagt tttctggggc ataacattga aaataaaaaga agaccctacc 120  
ttttgaaaaa tttcctctag atgatgactc caagaatact ctctgaagta gtagataatt 180  
tgggaaatga agacagagcc atttgtttca tgcgtccaaag aaacatttac tacaataaaa 240  
aggcatcaaa atattggagg atgtgatctt ttatacatgt ggaagactcc tggagacata 300

actttggaa aaaaaatctg atttgttc tttggagaag agagggaaac caatgctaaa 360  
taaagatgga cctccaactt ccataccagg cccagaaaaa gccatcatgg gacccctc 420  
actcataaat caccttgatt ttcttaggtt ctagaccgaa gtgatatcct ctgggtttgc 480  
aagtatgtt aagagtgtt aatgccttca gcactaacta cataacagaa aaataataca 540  
gccttgacat tccttgattc tgg 563

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<211> 528  
<212> DNA  
<213> Homo sapiens

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tttataaaata tctcttcttt aatgagacat aatgtcttc ccagatgggtt ctgggattgt 180  
ttgggttccacc actgacagtgtt gaaaagccag tgcagataact catggcggc tcttgcaagg 240  
taacatctgtt aatgatgtgtt ttacaaaggc tcatgtggaa aaggacttca ttgcgttcaa 300  
atcttcacaca ccacgttaatgtt gatttcagag agaataatctt taaaatttctt tagtaggttt 360  
ctagatagta ggcttggctt tgcataatc ttatcaccga acagagcatt tcttcctaa 420  
ttaccaggat attttaggtt gaaaaagat taaaatgtt gagacttca taatttagaaa 480  
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<210> 35  
<211> 555  
<212> DNA  
<213> Homo sapiens

<400> 35  
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agttagcccc attccttggg gtcagatagt caaactttgtt attgcttata atgagagcca 180  
ggtagtttgc gatctttctg tttttttttt tattagatttgc atctgcagga gatggagatg 240  
aaatgactttt gattacctga gtctctttc aatctccata tgttcacaa ttttgggg 300  
ttaaaacctc gtatagctgc cctctccctt aacctctatc aaaagacact gctttccct 360  
ctctcaagag cccagagcaa gaaccaggac atatctggat gattgtcaa gaatcttaaa 420  
gaaaactagaa taattcctac tcccttctt ctatcttgc ttctgcataactcaacat 480  
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aaaaatgaat atagc 555

<210> 36  
<211> 532  
<212> DNA  
<213> Homo sapiens

<400> 36  
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aaacatatgg aggattgaaa aggagactca ggtaatcaaa gtcatttcat ctccatctcc 120  
tgcagatcaa tctaataaaa aaaaaaacag aaagatctgc aaatacctgg ctctcattat 180  
aagcaataca aagtttgact atctgactcc aagggaatgg ggctcacttc gacatcacgg 240  
gaatgaagga gctgttcaa ggcctgggct tcttctgccc catacttgat attagatgtg 300  
tgattatatg tgtaattaac ttagctacag agttttatga gtaaggagag ttaagcctag 360  
caatttgta atatagtaag aactacatga catgatatat gtagaaaact aattatagtt 420  
ctgttcatac ttaaattgct caataaagat aatgatggca acaatgatag tggtgatgtt 480  
gatgatgata atgacgcaat ttgggtgacc atgaaatagg aggagtacgc ca 532

<210> 37  
<211> 576  
<212> DNA  
<213> Homo sapiens

<400> 37  
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tttcttcattc ttttggagcc tctattcatt cctctgtaaa gtggataat tccagttatt 180  
tctcaagccc ctataaaagc caagagaata aacacaatgt ttgttagtata aagtcagtcc 240  
caagaatcaa aatacaatca ctacacaatc tcttgcatac cttacaaact gcacctttg 300  
atcaactgtt gctagggttt ttgttgcatt tatgcggaaa gtggtaat gtaagggtgt 360  
aaacatgtcg tccaaatctg taaagataat tcccaagcta tgctttatt aaaaaaaaaa 420  
tcctcaaaac aaaaatgtaa aaaaaaaaata gtgaaggta tagccaaaga catacccatc 480  
tgtatcatca tagataacgt gtccaggaga gacagcacaa ggggctccat cttcatcaca 540  
caactcatcg catgcttcca gagatattcc tggcgc 576

<210> 38  
<211> 611  
<212> DNA  
<213> Homo sapiens

<400> 38  
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ttgttggaaaa tttcaaaagta tgggtgtcatc gtgaagaaca tctggctctt gatcccaagt 180  
cttggtccca cagattccat tcaggatgct atgtgacata aacaccagga atgtgctgtc 240  
tgaggactgg tgctctgggt gagcagcaaa ctgccttagt gctgtttcca tttcctgaaa 300  
gagacccttg agtcaactatc gaggaagtct ccatgtgtat gtagttgtat atcaaataat 360  
gggttagggtt cacaaaaagg agccagcaact aaggaatcag atggttttaga ctgaatagga 420  
ttataagata aacagtgttc tgacataaaaa ctagaaaatt tagctgtata gaatattaaa 480  
gttagtaggg tttttatgtat gtatcttgcc cagtggttt tagtaaaacc ttaggttct 540  
gaagatgctg ggagatggaa taaaatgaag gccaaagttag atgacaatac accaatagga 600  
ccattttgct a 611

<210> 39

<211> 76

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: peptide

<400> 39

Arg Glu Lys Ser Trp Gly Lys Ser Phe Cys Val Tyr Leu Gln Ile Tyr  
1 5 10 15

Pro Val Met Glu Lys Glu Arg Arg Asn Met Pro Gly Leu Asn Ile Arg  
20 25 30

Asn Lys Glu Arg Asn Tyr Leu His Asn Arg Asn Gly Ser Glu Leu Asp  
35 40 45

Leu Leu Gly Met Asp Leu Leu Glu Asn Leu Gly Tyr Ser Val Val Ile  
50 55 60

Lys Glu Asn Leu Thr Ala Gln Val Met Ala Pro Glu  
65 70 75

<210> 40

<211> 47

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: peptide

<400> 40

His Leu Pro Thr Phe Phe Arg Phe Ser Lys His Leu Lys Val Pro  
1 5 10 15

Glu Ala Thr Val Gln Met Pro Thr Ile Glu Arg Val Ser Met Thr Arg  
20 25 30

Tyr Phe Tyr Leu Phe Pro Gly Asn Lys Trp Leu Ser Ile Glu Ser  
35 40 45

<210> 41

<211> 177  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<220>  
<221> misc\_feature  
<222>  
<223> Xaa = any amino acid or no amino acid

<400> 41  
Val Leu Ala Pro Glu Ala Leu Ala Ser Pro Glu Lys Leu Leu Xaa Met  
1 5 10 15

Lys Ile His Gly Pro Ile Leu Thr Tyr Gln Ile Lys Ile Ile Trp Thr  
20 25 30

Arg Met Gln Glu Ala Leu Leu Thr Lys Leu Ser Arg Xaa Phe Leu Cys  
35 40 45

Thr Leu Lys Phe Gly Asn His Tyr Pro Arg Met Gly Ile Xaa Ser Ser  
50 55 60

Val His Ile Xaa Asp Ser Ile Ile Phe Thr Asp Glu Lys Pro Ser Asn  
65 70 75 80

Gly Val Leu Val His Met Val Lys Leu Leu Ile Lys Thr Phe Leu Asp  
85 90 95

Gly Ile Phe Asp Asp Leu Met Glu Asn Asn Val Leu Asn Thr Asp Glu  
100 105 110

Ile His Leu Ile Gly Lys Cys Leu Lys Phe Val Val Ser Asn Ala Glu  
115 120 125

Asn Leu Val Asp Asp Ile Thr Glu Thr Ala Gln Ile Ala Gly Lys Ile  
130 135 140

Phe Arg Glu His Leu Trp Asn Ser Lys Lys Gln Leu Ser Ser Gly Glu  
145 150 155 160

Tyr Trp Gly Leu Thr Ala Arg Asn Ser Phe Leu Phe Phe Leu Tyr Ser  
165 170 175

Ser

<210> 42  
<211> 99  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<220>  
<221> misc\_feature  
<222>  
<223> Xaa = any amino acid or no amino acid

<400> 42  
Met Ser Pro Gly Val Phe His Met Tyr Lys Arg Ser His Pro Pro Ile  
1 5 10 15  
Phe Xaa Cys Leu Leu Phe Val Asp Asn Val Ser Trp Arg His Glu Thr  
20 25 30  
Asn Gly Ser Val Phe Ile Ser Gln Ile Ile Tyr Tyr Phe Arg Glu Tyr  
35 40 45  
Ser Trp Ser His His Leu Glu Glu Ile Phe Gln Lys Val Gly Ser Ser  
50 55 60  
Phe Ile Phe Asn Val Met Pro Gln Lys Thr Leu Glu Asn His Leu Xaa  
65 70 75 80  
Ile Phe Ile Arg Asn Pro Lys Ala Leu Asn Ser Ser Xaa Gln Ser Phe  
85 90 95  
Leu Thr Pro

<210> 43  
<211> 99  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: peptide  
  
<220>  
<221> misc\_feature  
<222>  
<223> Xaa = any amino acid or no amino acid

<400> 43  
Cys Val Cys Met Cys Met Cys Val Tyr Leu Xaa Ile Ser Leu Leu Xaa  
1 5 10 15  
Asp Ile Met Ser Leu Pro Asp Gly Ala Gly Ile Val Trp Phe Thr Thr  
20 25 30  
Asp Ser Gly Lys Ala Ser Ala Asp Thr His Gly Arg Leu Leu Gln Gly  
35 40 45  
Asn Ile Cys Asn Asp Ala Val Thr Lys Ala His Val Glu Lys Asp Phe  
50 55 60  
Ile Ala Phe Lys Ser Ser Thr Pro Arg Lys Xaa Phe Gln Arg Glu Xaa  
65 70 75 80  
Phe Leu Asn Phe Leu Val Gly Phe Xaa Ile Val Gly Leu Ala Met Ile  
85 90 95  
Ile Ser Tyr

<210> 44  
<211> 50

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<220>  
<221> misc\_feature  
<222>  
<223> Xaa = any amino acid or no amino acid

<400> 44  
Ala Leu Ile Ile Ser Asn Thr Lys Phe Asp Tyr Leu Thr Pro Arg Asn  
1 5 10 15  
Gly Ala His Phe Asp Ile Thr Gly Met Lys Glu Leu Phe Gln Gly Leu  
20 25 30  
Gly Phe Leu Leu Pro His Thr Xaa Tyr Xaa Met Cys Asp Tyr Met Cys  
35 40 45  
Asn Xaa  
50

<210> 45  
<211> 47  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 45  
Ala Leu Ile Ile Ser Asn Thr Lys Phe Asp Tyr Leu Thr Pro Arg Glu  
1 5 10 15  
Trp Gly Ser Leu Arg His His Gly Asn Glu Gly Ala Val Ser Arg Pro  
20 25 30  
Gly Leu Leu Leu Pro His Thr Tyr Met Cys Asp Thr Met Cys Asn  
35 40 45

<210> 46  
<211> 48  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 46  
Leu Ser Leu Ala Ile Gln Ser Leu Thr Ile Leu Gln Gly Asn Gly Ala  
1 5 10 15  
His Phe Asp Ile Thr Gly Met Lys Glu Leu Phe Gln Gly Leu Gly Phe  
20 25 30  
Phe Cys Pro Ile Leu Asp Ile Arg Cys Val Ile Ile Cys Val Ile Asn  
35 40 45

<210> 47  
<211> 51  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 47  
Ser Lys Gln Lys Cys Lys Gln Lys Ile Val Lys Val Ile Ala Gln Asp  
1 5 10 15  
Ile Pro Ile Cys Ile Ile Ile Asp Asn Val Ser Arg Arg Asp Ser Thr  
20 25 30  
Arg Gly Ser Ile Phe Ile Thr Gln Ile Leu Ala Cys Phe Gln Arg Tyr  
35 40 45  
Ser Trp Arg  
50

<210> 48  
<211> 89  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 48  
Gly Ser Leu Leu Leu Thr Gln Ser Thr Ser Pro Gln Thr Ala His Ser  
1 5 10 15  
Trp Cys Leu Cys His Ile Ala Ser Met Glu Ser Val Gly Pro Ser Thr  
20 25 30  
Gly Ile Lys Ser Gln Met Phe Phe Thr Met Thr Pro Tyr Phe Glu Ile  
35 40 45  
Phe Asn Asn Arg Asn Cys Gln Ser Leu Lys Asp Lys Pro Lys Val Ile  
50 55 60  
Ile Met Gln Ala Cys Arg Gly Ser Glu Ser Pro Ile Arg Lys Leu Ile  
65 70 75 80  
Leu Ile Leu Arg Pro Gln Gly Gly Leu  
85

<210> 49  
<211> 92  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 49

Ile Leu Ser Tyr Ser Val Thr Ile Phe Leu Ser Ala Gly Ser Phe Leu  
1 5 10 15

Thr Leu Pro Ile Ile Leu Gln Thr Thr Tyr Thr Trp Arg Leu Pro Arg  
20 25 30

Leu Lys Gly Leu Phe Gln Glu Met Glu Thr Ala Leu Arg Gln Phe Ala  
35 40 45

Ala His Pro Glu His Gln Ser Ser Asp Ser Thr Phe Leu Val Phe Met  
50 55 60

Ser His Ser Ile Leu Asn Gly Ile Cys Gly Thr Lys His Trp Asp Gln  
65 70 75 80

Glu Pro Asp Val Leu His Asp Asp Thr Ile Leu Asn  
85 90

<210> 50

<211> 1026

<212> DNA

<213> Homo sapien

<220>

<221> CDS

<222> (1)...(372)

<400> 50

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Met Ala Asp Glu Lys Pro Ser Asn Gly Val Leu Val His Met Val Lys  
1 5 10 15

ttg ctg atc aag acc ttt cta gat ggc att ttt gat gat ttg atg gaa 96  
Leu Leu Ile Lys Thr Phe Leu Asp Gly Ile Phe Asp Asp Leu Met Glu  
20 25 30

aat aat gtg tta aat aca gat gag ata cac ctt ata gga aaa tgt cta 144  
Asn Asn Val Leu Asn Thr Asp Glu Ile His Leu Ile Gly Lys Cys Leu  
35 40 45

aag ttt gtg gtg agc aat gct gaa aac ctg gtt gat gat atc act gag 192  
Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
50 55 60

aca gct caa att gca ggc aaa ata ttt agg gaa cac ctg tgg aat tcc 240  
Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80

aaa aaa cag ctg agt tca gat ata tcc agt gat gga gaa aga gag gcg 288  
Lys Lys Gln Leu Ser Ser Asp Ile Ser Ser Asp Gly Glu Arg Glu Ala  
85 90 95

aac atg cct ggc ctc aac atc cgc aac aaa gaa ttc aac tat ctt cat 336  
Asn Met Pro Gly Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His  
100 105 110

aat cga aat ggt tct gaa ctt gac ctt ttg ggg atg tgagatctac 382  
Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met  
115 120

ttgaaaacct tggatactca gtggttataa aagagaatct cacagctcag gaaatggaaa 442

cagcactaag gcagtttgc gtcacccag agcaccagtc ctcagacagc acattcctgg 502  
tgtttatgtc acatagcatc ctgaatggaa tctgtggac caagcactgg gatcaagagc 562  
cagatgttct tcacgatgac accatcttg aaattttcaa caaccgtaac tgccagagtc 622  
tgaaaagacaa acccaaggc atcatcatgc aagcctgccc aggcaatggt gctgggattg 682  
tttggttcac cactgacagt ggaaaagcca gtgcagatac tcatggtcgg ctcttgcaag 742  
gtaacatctg taatgatgct gttacaaagg ctcatgtgga aaaggacttc attgctttca 802  
aatcttccac accacataat gtttcttgaa gacatgaaac aaatggctct gtcttcattt 862  
cccaaattat ctactacttc agagagtatt cttggagtca tcatacttagag gaaatttttc 922  
aaaagggttca acattcattt gagacccaa atatactgac ccagctgccc accattgaaa 982  
gactatccat gacacgatat ttctatctct ttccctggaa ttaa 1026

<210> 51  
<211> 340  
<212> PRT  
<213> Homo sapiens

<400> 51  
Met Ala Asp Glu Lys Pro Ser Asn Gly Val Leu Val His Met Val Lys  
1 5 10 15  
Leu Leu Ile Lys Thr Phe Leu Asp Gly Ile Phe Asp Asp Leu Met Glu  
20 25 30  
Asn Asn Val Leu Asn Thr Asp Glu Ile His Leu Ile Gly Lys Cys Leu  
35 40 45  
Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
50 55 60  
Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80  
Lys Lys Gln Leu Ser Ser Ile Tyr Pro Val Met Glu Lys Glu Arg Arg  
85 90 95  
Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His  
100 105 110  
Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Asp Leu Leu Glu  
115 120 125  
Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr Ala Gln Glu  
130 135 140  
Met Glu Thr Ala Leu Arg Gln Phe Ala Ala His Pro Glu His Gln Ser  
145 150 155 160  
Ser Asp Ser Thr Phe Leu Val Phe Met Ser His Ser Ile Leu Asn Gly  
165 170 175  
Ile Cys Gly Thr Lys His Trp Asp Gln Glu Pro Asp Val Leu His Asp  
180 185 190

Asp Thr Ile Phe Glu Ile Phe Asn Asn Arg Asn Cys Gln Ser Leu Lys  
195 200 205

Asp Lys Pro Lys Val Ile Ile Met Gln Ala Cys Arg Gly Asn Gly Ala  
210 215 220

Gly Ile Val Trp Phe Thr Thr Asp Ser Gly Lys Ala Ser Ala Asp Thr  
225 230 235 240

His Gly Arg Leu Leu Gln Gly Asn Ile Cys Asn Asp Ala Val Thr Lys  
245 250 255

Ala His Val Glu Lys Asp Phe Ile Ala Phe Lys Ser Ser Thr Pro His  
260 265 270

Asn Val Ser Trp Arg His Glu Thr Asn Gly Ser Val Phe Ile Ser Gln  
275 280 285

Ile Ile Tyr Tyr Phe Arg Glu Tyr Ser Trp Ser His His Leu Glu Glu  
290 295 300

Ile Phe Gln Lys Val Gln His Ser Phe Glu Thr Pro Asn Ile Leu Thr  
305 310 315 320

Gln Leu Pro Thr Ile Glu Arg Leu Ser Met Thr Arg Tyr Phe Tyr Leu  
325 330 335

Phe Pro Gly Asn  
340

<210> 52

<211> 1001

<212> DNA

<213> Homo sapiens

<400> 52

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acctttctag atggcatttt tgatgatgg atggaaaata atgtgttaaa tacagatgag 120  
atacacctt tagaaaaatg tctaaagttt gtggtgagca atgctgaaaa cctggttgat 180  
gatatcactg agacagctca aattgcagggc aaaatattta gggAACACCT gtggattcc 240  
aaaaaacagc tgagttcaga tatatccagt gatggagaaa gagaggcgaa catgcctggc 300  
ctcaacatcc gcaacaaaga attcaactat cttcataatc gaaatggtc tgaacttgac 360  
cttttgggaa tgtgagatct acttggaaac cttggatact cagtggttat aaaagagaat 420  
ctcacagctc aggaaatgga aacagacta aggcagttt ctgctcaccc agagcaccag 480  
tcctcagaca gcacattcct ggtgtttatg tcacatagca tcctgaatgg aatctgtgg 540  
accaagcact gggatcaaga gccagatgtt cttcacgatg acaccatctt tgaaatttc 600  
aacaaccgta actgccagag tctgaaagac aaacccaagg tcacatcat gcaaggctgc 660  
cgaggcaatg gtgctggat tggatggatcc accactgaca gtggaaaagc cagtgcat 720  
actcatggtc ggcttgcgca aggttaacatc tggatgtt ctgttacaaa ggctcatgtg 780

gaaaaggact tcattgcttt caaatcttcc acaccacgtt caacattcat ttgagacccc 840  
aaatatactg acccagctgc ccaccattga aagactatcc atgacacgat atttctatct 900  
ctttcctggg aataaaaat cgaattcccg cggccgccat ggccggccggg agcatgcgac 960  
gtcggggcca attcgcccta tagtgagtcg tattacaatt c 1001

<210> 53  
<211> 303  
<212> PRT  
<213> Homo sapiens

<400> 53  
Met Ala Asp Glu Lys Pro Ser Asn Gly Val Leu Val His Met Val Lys  
1 5 10 15

Leu Leu Ile Lys Thr Phe Leu Asp Gly Ile Phe Asp Asp Leu Met Glu  
20 25 30

Asn Asn Val Leu Asn Thr Asp Glu Ile His Leu Ile Gly Lys Cys Leu  
35 40 45

Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
50 55 60

Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80

Lys Lys Gln Leu Ser Ser Ile Tyr Pro Val Met Glu Lys Glu Arg Arg  
85 90 95

Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His  
100 105 110

Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Asp Leu Leu Glu  
115 120 125

Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr Ala Gln Glu  
130 135 140

Met Glu Thr Ala Leu Arg Gln Phe Ala Ala His Pro Glu His Gln Ser  
145 150 155 160

Ser Asp Ser Thr Phe Leu Val Phe Met Ser His Ser Ile Leu Asn Gly  
165 170 175

Ile Cys Gly Thr Lys His Trp Asp Gln Glu Pro Asp Val Leu His Asp  
180 185 190

Asp Thr Ile Phe Glu Ile Phe Asn Asn Arg Asn Cys Gln Ser Leu Lys  
195 200 205

Asp Lys Pro Lys Val Ile Ile Met Gln Ala Cys Arg Gly Asn Gly Ala  
210 215 220

Gly Ile Val Trp Phe Thr Thr Asp Ser Gly Lys Ala Ser Ala Asp Thr  
225 230 235 240

His Gly Arg Leu Leu Gln Gly Asn Ile Cys Asn Asp Ala Val Thr Lys  
245 250 255

Ala His Val Glu Lys Asp Phe Ile Ala Phe Lys Ser Ser Thr Pro Val  
260 265 270

Gln His Ser Phe Glu Thr Pro Asn Ile Leu Thr Gln Leu Pro Thr Ile  
275 280 285

Glu Arg Leu Ser Met Thr Arg Tyr Phe Tyr Leu Phe Pro Gly Asn  
290 295 300

<210> 54  
<211> 874  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222>  
<223> n = a or t or g or c  
  
<400> 54  
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acctttctag atggcatttt tgatgatttg atggaaaata atgtgttaaa tacagatgag 120  
atacacctta tagaaaaatg tctaaagttt gtggtgagca atgctgaaaa cctgggtttag 180  
gatatcactg agacagctca aattgcaggc aaaatattta gggAACACCT gtggattcc 240  
aaaaaacagc tggatcaga tatatccagt gatggagaaa gagaggcgaa catgcctggc 300  
ctcaacatcc gcaacaaaga attcaactat cttcataatc gaaatggttc tgaacttgac 360  
ctttgggga tggagatct acttgaaaac cttggatact cagtggttat aaaagagaat 420  
ctcacagctc agatgggtct gggattgttt ggttccaccac tgacagtggaa aaagccagtg 480  
cagatactca tggcggctc ttgcaaggta acatctgtaa tggatgtttt acaaaggctc 540  
atgtggaaaa ggacttcatt gctttcaaattt cttccacacc acataatgtt tcttggagac 600  
atgaaacaaa tggctctgtc ttcatttccc aaattatcta ctacttcaga gagtattctt 660  
ggagtcatca tctagaggaa atttttcaaa agttcaaca ttcatttgag accccaaata 720  
tactgaccca gctgccaccattt gaaagac tatccatgac acgatatttc tatcttttc 780  
ctggaaatta aaaatcgaat tcccgccgccc gccatggcgcc ccgggagcat ggcacgtcgg 840  
gcccaattcg ccctatacg agtcgtttaa caat 874

<210> 55  
<211> 261  
<212> PRT  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 8  
<223> Xaa = any amino acid or no amino acid

<400> 55  
Met Ala Asp Glu Lys Pro Ser Xaa Gly Val Leu Val His Met Val Lys

1 5 10 15  
Leu Leu Ile Lys Thr Phe Leu Asp Gly Ile Phe Asp Asp Leu Met Glu  
20 25 30

Asn Asn Val Leu Asn Thr Asp Glu Ile His Leu Ile Gly Lys Cys Leu  
35 40 45

Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
50 55 60

Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80

Lys Lys Gln Leu Ser Ser Ile Tyr Pro Val Met Glu Lys Glu Arg Arg  
85 90 95

Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His  
100 105 110

Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Asp Leu Leu Glu  
115 120 125

Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr Ala Gln Gly  
130 135 140

Ala Gly Ile Val Trp Phe Thr Thr Asp Ser Gly Lys Ala Ser Ala Asp  
145 150 155 160

Thr His Gly Arg Leu Leu Gln Gly Asn Ile Cys Asn Asp Ala Val Thr  
165 170 175

Lys Ala His Val Glu Lys Asp Phe Ile Ala Phe Lys Ser Ser Thr Pro  
180 185 190

His Asn Val Ser Trp Arg His Glu Thr Asn Gly Ser Val Phe Ile Ser  
195 200 205

Gln Ile Ile Tyr Tyr Phe Arg Glu Tyr Ser Trp Ser His His Leu Glu  
210 215 220

Glu Ile Phe Gln Lys Val Gln His Ser Phe Glu Thr Pro Asn Ile Leu  
225 230 235 240

Thr Gln Leu Pro Thr Ile Glu Arg Leu Ser Met Thr Arg Tyr Phe Tyr  
245 250 255

Leu Phe Pro Gly Asn  
260

<210> 10

<211> 765

<212> DNA

<213> Homo sapiens

<400> 56

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acctttctag atggcatttt tggatgtttt atggaaaata atgtgttaaa tacagatgag 120  
atacaccttta tagggaaatg tctaaagttt gtgggtgagca atgctgaaaa cctgggttcat 180  
gatatcactg agacagctca aattgcaggc aaaatattta gggAACACCT gtggaaattcc 240

aaaaaacacgc tgagttcaga tatatccagt gatggagaaa gagaggcgaa catgcctggc 300  
ctcaacatcc gcaacaaaaga attcaactat cttcataatc gaaatggttc tgaacttgac 360  
cttttgggaa tgtgagatct acttggaaac cttggatact cagtggttat aaaagagaat 420  
ctcacagctc agatggtgct gggattgttt ggttaccac tgacagtggaa aagccagtg 480  
cagatactca tggtcggctc ttgcaaggtt acatctgtaa tgatgctgtt acaaaggctc 540  
atgtggaaaa ggacttcatt gcttcaaat cttccacacc acgttcaaca ttcatttgag 600  
accccaaata tactgaccca gctgccact attgaaagac tatccatgac acgatatttc 660  
tatctcttcc ctgggaatta aaaatcgaat tcccgccgccc gccatggcgg ccgggagcat 720  
gcgacgtcgg gccaattcg ccctatagtg agtcttattt caatt 765

<210> 57  
<211> 224  
<212> PRT  
<213> Homo sapien

<400> 57

Met Ala Asp Glu Lys Pro Ser Asn Gly Val Leu Val His Met Val Lys  
1 5 10 15

Leu Leu Ile Lys Thr Phe Leu Asp Gly Ile Phe Asp Asp Leu Met Glu  
20 25 30

Asn Asn Val Leu Asn Thr Asp Glu Ile His Leu Ile Gly Lys Cys Leu  
35 40 45

Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
50 55 60

Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80

Lys Lys Gln Leu Ser Ser Ile Tyr Pro Val Met Glu Lys Glu Arg Arg  
85 90 95

Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His  
100 105 110

Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Asp Leu Leu Glu  
115 120 125

Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr Ala Gln Gly  
130 135 140

Ala Gly Ile Val Trp Phe Thr Thr Asp Ser Gly Lys Ala Ser Ala Asp  
145 150 155 160

Thr His Gly Arg Leu Leu Gln Gly Asn Ile Cys Asn Asp Ala Val Thr  
165 170 175

Lys Ala His Val Glu Lys Asp Phe Ile Ala Phe Lys Ser Ser Thr Pro

180

185

190

Val Gln His Ser Phe Glu Thr Pro Asn Ile Leu Thr Gln Leu Pro Thr  
195 200 205

Ile Glu Arg Leu Ser Met Thr Arg Tyr Phe Tyr Leu Phe Pro Gly Asn  
210 215 220

<210> 58  
<211> 439  
<212> DNA  
<213> Homo sapiens

<400> 58  
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gcagatgaga tatatccagt gatggagaaa gagaggcgaa catgcctggc ctcaacatcc 120  
gcaacaaaaga attcaactat cttcataatc gaaatggttc tgaacttgac cttttggga 180  
tgcgagatct acttgaaaac cttggatact cagtggttat aaaagagaat ctcacagcta 240  
gcatcctgaa tggaaatctgt gggaccaagc actgggatca agagccagat gttttcacg 300  
atgacaccat cttgaaatt ttcaacaacc gtaactgcc a gactctgaaa gacaaaccca 360  
agtcatcat catgcaagcc tgccgaggcg gaatcaactag tgaattcgcg gccgcctgca 420  
ggtcgaccat atgggagag 439

<210> 59  
<211> 129  
<212> PRT  
<213> Homo sapien

<400> 59  
Pro Ser Gly Lys Leu Lys Leu Cys Pro His Ala His Phe His Glu Leu  
1 5 10 15

Lys Thr Lys Arg Ala Asp Glu Ile Tyr Pro Val Met Glu Lys Glu Arg  
20 25 30

Arg Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu  
35 40 45

His Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Asp Leu Leu  
50 55 60

Glu Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr Ala Ser  
65 70 75 80

Ile Leu Asn Gly Ile Cys Gly Thr Lys His Trp Asp Gln Glu Pro Asp  
85 90 95

Val Leu His Asp Asp Thr Ile Phe Glu Ile Phe Asn Asn Arg Asn Cys  
100 105 110

Gln Ser Leu Lys Asp Lys Pro Lys Val Ile Ile Met Gln Ala Cys Arg  
115 120 125

Gly

<210> 60  
<211> 477  
<212> DNA  
<213> Homo sapiens

<400> 60  
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aaaaggcag atgagatata tccagtgtg gagaaagaga ggcgaacatg cctggcctca 120  
acatccgcaa caaagaattc aactatcttc ataatcgaaa tggttctgaa cttgaccttt 180  
tggggatgtg agatctactt gaaaaccttg gatactcagt ggttataaaa gagagtctca 240  
cagctcagga aatggaaaca gcaactaaggc agtttgcgc tcacccagag caccagtcc 300  
cagacagcac attcctggtg tttatgtcac atagcatcct gaatggaatc tgtggacca 360  
agcactggga tcaagagcca gatgttcttc acgatgacac catcttgaa atttcaaca 420  
accgtaactg ccagagtctg aaagacaaac ccaaggtcat catcatgcaa gcctgcc 477

<210> 61  
<211> 158  
<212> PRT  
<213> Homo sapiens

<400> 61  
Ala Gln Pro Ser Gly Lys Leu Lys Leu Cys Pro His Ala His Phe His  
1 5 10 15  
Glu Leu Lys Thr Lys Arg Ala Asp Glu Ile Tyr Pro Val Met Glu Lys  
20 25 30  
Glu Arg Arg Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn  
35 40 45  
Tyr Leu His Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Asp  
50 55 60  
Leu Leu Glu Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Ser Leu Thr  
65 70 75 80  
Ala Gln Glu Met Glu Thr Ala Leu Arg Gln Phe Ala Ala His Pro Glu  
85 90 95  
His Gln Ser Ser Asp Ser Thr Phe Leu Val Phe Met Ser His Ser Ile  
100 105 110  
Leu Asn Gly Ile Cys Gly Thr Lys His Trp Asp Gln Glu Pro Asp Val  
115 120 125  
Leu His Asp Asp Thr Ile Phe Glu Ile Phe Asn Asn Arg Asn Cys Gln  
130 135 140  
Ser Leu Lys Asp Lys Pro Lys Val Ile Ile Met Gln Ala Cys  
145 150 155  
<210> 62  
<211> 497  
<212> DNA

<213> Homo sapiens

<40C> 62  
gccccaaaccca gtggcaagtt aaagctttgt cctcatgctc acttccatga actcaagaca 60  
aaaagggcag atgagatata tccagtgtatg gagaagaga ggcgaacatg cctggcctca 120  
acatccgcaa caaagaattc aactatcttc ataatcgaaa tggttctgaa cttgaccttt 180  
tggggatgtg agatctactt gaaaaccttg gatactcagt ggttataaaaa gagaatctca 240  
cagctcagat ggtgctggga ttgtttgggtt caccactgac agtggaaaag ccagtcaga 300  
tactcatggt cggcttgc aaggtaacat ctgtaatgat gctgttacaa aggctcatgt 360  
ggaaaaggac ttcatgtttt tcaaattttc cacaccacgt tcaacattca tttgagaccc 420  
caaataataact gacccagctg cccaccattg aaagactatc catgacacacga tatttctatc 480  
tctttcccttgg qaattaa 497

<210> 63  
<211> 163  
<212> PRT  
<213> *Homo sapien*

<400> 63

Ala Gln Pro Ser Gly Lys Leu Lys Leu Cys Pro His Ala His Phe His  
1 5 10 15

Glu Leu Lys Thr Lys Arg Ala Asp Glu Ile Tyr Pro Val Met Glu Lys  
20 25 30

Glu Arg Arg Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn  
35 40 45

Tyr Leu His Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Asp  
50 55 60

Leu Leu Glu Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr  
65 70 75 80

Ala Gln Gly Ala Gly Ile Val Trp Phe Thr Thr Asp Ser Gly Lys Ala  
85 90 95

Ser Ala Asp Thr His Gly Arg Leu Leu Gln Gly Asn Ile Cys Asn Asp  
100 105 110

Ala Val Thr Lys Ala His Val Glu Lys Asp Phe Ile Ala Phe Lys Ser  
115 120 125

Ser Thr Pro Val Gln His Ser Phe Glu Thr Pro Asn Ile Leu Thr Gln  
 130 135 140

Leu Pro Thr Ile Glu Arg Leu Ser Met Thr Arg Tyr Phe Tyr Tyr Leu Phe  
145 150 155 160

Pro Gly Asn

<210> 64  
<211> 661  
<212> DNA  
<213> Homo sapiens

<400> 64  
gcccaaccca gtggcaagtt aaagcttgt cctcatgctc acttccatga actaaagaca 60  
aaaagggcag atgagatata tccagtgtatg gagaaagaga ggcgaacatg cctggcctca 120  
acatccgcaa caaagaattc aactatcttc ataatcgaaa tggttctgaa cttgaccttt 180  
aggggatgtg agatctactt gaaaaccttg gatactcagt ggttataaaa gagaatctca 240  
cagctcagat ggtgctggga ttgtttgggtt caccactgac agtggaaaag ccagtgcaga 300  
tactcatggt cggctcttgc aaggtaacat ctgtaatgat gctgttacaa aggctcatgt 360  
ggaaaaggac ttcattgctt tcaaataatcc cacaccacat aatgtttctt ggagacatga 420  
aacaatggc tctgtcttca tttcccaaataatcttacatc ttcagagagt attcttggag 480  
tcatcatcta gaggaaatct ttcaaaaaggatcaacattca tttgagacccc caaatataact 540  
gaccaggctg cccaccatttgaagactatc catgacacgat tatttcttacatc tcttcctgg 600  
gaattaaaaa tcgaattccc gcggccgcca tggccggccgg gagcatgcga cgtcgggccc 660  
a 661

<210> 65  
<211> 200  
<212> PRT  
<213> Homo sapiens

<400> 65  
Ala Gln Pro Ser Gly Lys Leu Lys Leu Cys Pro His Ala His Phe His  
1 5 10 15

Glu Leu Lys Thr Lys Arg Ala Asp Glu Ile Tyr Pro Val Met Glu Lys  
20 25 30

Glu Arg Arg Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn  
35 40 45

Tyr Leu His Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Asp  
50 55 60

Leu Leu Glu Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr  
65 70 75 80

Ala Gln Gly Ala Gly Ile Val Trp Phe Thr Thr Asp Ser Gly Lys Ala  
85 90 95

Ser Ala Asp Thr His Gly Arg Leu Leu Gln Gly Asn Ile Cys Asn Asp  
100 105 110

Ala Val Thr Lys Ala His Val Glu Lys Asp Phe Ile Ala Phe Lys Ser  
115 120 125

Ser Thr Pro His Asn Val Ser Trp Arg His Glu Thr Asn Gly Ser Val  
130 135 140

Phe Ile Ser Gln Ile Ile Tyr Tyr Phe Arg Glu Tyr Ser Trp Ser His  
145 150 155 160

His Leu Glu Glu Ile Phe Gln Lys Val Gln His Ser Phe Glu Thr Pro  
165 170 175

Asn Ile Leu Thr Gln Leu Pro Thr Ile Glu Arg Leu Ser Met Thr Arg  
180 185 190

Tyr Phe Tyr Leu Phe Pro Gly Asn  
195 200

<210> 66

<211> 758

<212> DNA

<213> Homo sapiens

<400> 66

gccccaccca gtggcaagtt aaagcttgt cctcatgctc acttccatga actaaagaca 60

aaaaggcgag atgagatata tccagtgtatg gagaaagaga ggcgaacatg cctggcctca 120

acatccgcaa caaagaattc aactatcttc ataatcgaaa tggttctgaa cttgacccttt 180

tggggatgtg agatctactt gaaaaccttg gatactcgtt ggttataaaaa gagaatctca 240

cagctcagga aatggaaaca gcactaaggc agtttgctgc tcacccagag caccagtcct 300

cagacagcac attcctggcg tttatgtcac atagcatcct gaatagaatc tgtggacca 360

agcactggga tcaagagcca gatgttcttc acgatgacac catcttgaa atttcaaca 420

accgtaactg ccagagtctg aaagacaaac ccaagatggt gctgggattt tttggttcac 480

cactgacagt gaaaaaagcc agtgcagata ctcatggctg gctcttgcaa ggtaacatct 540

gtaatgatgc tggtaaaaaag gttcatgtgg aaaaggactt cattgcttcc aaatcttcca 600

caccacgttc aacattcatt tgagacccca aatatactga cccagctgcc caccattgaa 660

agactatcca tgacacgata tttctatctc tttcctggga attaaaaatc gaattccgc 720

ggccgcagg cggccgggag catgcgacgt cggccca 758

<210> 67

<211> 232

<212> PRT

<213> Homo sapien

<400> 67

Ala Gln Pro Ser Gly Lys Leu Lys Leu Cys Pro His Ala His Phe His  
1 5 10 15

Glu Leu Lys Thr Lys Arg Ala Asp Glu Ile Tyr Pro Val Met Glu Lys  
20 25 30

Glu Arg Arg Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn  
35 40 45

Tyr Leu His Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Asp  
50 55 60

Leu Leu Glu Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr  
65 70 75 80

Ala Gln Glu Met Glu Thr Ala Leu Arg Gln Phe Ala Ala His Pro Glu  
85 90 95

His Gln Ser Ser Asp Ser Thr Phe Leu Ala Phe Met Ser His Ser Ile  
100 105 110

Leu Asn Arg Ile Cys Gly Thr Lys His Trp Asp Gln Glu Pro Asp Val  
115 120 125

Leu His Asp Asp Thr Ile Phe Glu Ile Phe Asn Asn Arg Asn Cys Gln  
130 135 140

Ser Leu Lys Asp Lys Pro Lys Gly Ala Gly Ile Val Trp Phe Thr Thr  
145 150 155 160

Asp Val Glu Lys Ala Ser Ala Asp Thr His Gly Arg Leu Leu Gln Gly  
165 170 175

Asn Ile Cys Asn Asp Ala Val Thr Lys Val His Val Glu Lys Asp Phe  
180 185 190

Ile Ala Phe Lys Ser Ser Thr Pro Val Gln His Ser Phe Glu Thr Pro  
195 200 205

Asn Ile Leu Thr Gln Leu Pro Thr Ile Glu Arg Leu Ser Met Thr Arg  
210 215 220

Tyr Phe Tyr Leu Phe Pro Gly Asn  
225 230

<210> 68  
<211> 503  
<212> DNA  
<213> Homo sapiens

<400> 68  
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acctttctag atggcatttt tgatgattt atggaaaata atgtgttaaa tacagatgag 120  
atacacctt tagggaaatg tctaaagttt gtggtgagca atgctgaaaa cctggttgat 180  
gatatcactg agacagctca gattgcaggc aaaatattt gggAACACCT gtggattcc 240  
aaaaaaacagc tgagttcaga tatatccagt gatggagaaa gagaggcgaa catgcctggc 300  
ctcaacatcc gcaacaaaaga attcaactat cttcataatc gaaatggttc tgaacttgac 360  
cttttgggaa tgtgagatct acttgaaaac cttggatact cagtggttat aaaagagaat 420  
ctcacagctc aggaaatgga aacagcacat tcctgggttt tatgtcacat agcatcctga 480  
atggaatctg tgggaccaag cac 503

<210> 69

<211> 166

<212> PRT

<213> Homo sapien

<400> 69

Met Ala Asp Glu Lys Pro Ser Asn Gly Val Leu Val His Met Val Lys  
1 5 10 15

Leu Leu Ile Lys Thr Phe Leu Asp Gly Ile Phe Asp Asp Leu Met Glu  
20 25 30

Asn Asn Val Leu Asn Thr Asp Glu Ile His Leu Ile Gly Lys Cys Leu  
35 40 45

Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
50 55 60

Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80

Lys Lys Gln Leu Ser Ser Ile Tyr Pro Val Met Glu Lys Glu Arg Arg  
85 90 95

Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His  
100 105 110

Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Asp Leu Leu Glu  
115 120 125

Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr Ala Gln Glu  
130 135 140

Met Glu Ser Thr Phe Leu Val Phe Met Ser His Ser Ile Leu Asn Gly  
145 150 155 160

Ile Cys Gly Thr Lys His  
165

<210> 70

<211> 1129

<212> DNA

<213> Homo sapiens

<400> 70

tgattgccat ggctgatgag aaaccatcca acgggtttct ggtccacatg gtgaagttgc 60

tgatcaagac ctttctagat ggcattttg atgatttgat ggaaaataat gtgttaaata 120

cagatgagat acaccttata ggaaaatgtc taaagttgt ggtgagcaat gctgaaaacc 180

tggttgatga tatcaactgag acagctaaa ttgcaggcaa aatatttagg gaacacctgt 240

ggaattccaa aaaacagctg agttcagctc ttctggaaat ccagggtgcc caacccagtg 300

gcaagttaaa gctttgtcct catgctcaact tccatgaact aaagacaaaa agggcagatg 360

agatataatcc agtgtatggag aaagagaggc gaacatgcct ggcctcaaca tccgcaacaa 420

agaattcaac tatcttcata atcgaaatgg ttctgaactt gacctttgg ggatgtgaga 480

tctacttgaa aaccttggat actcagtggt tataaaagag aatctcacag ctcaggaaat	540
ggaaacagca ctaaggcagt ttgctgctca cccagagcac cagtcctcag acagcacatt	600
cctgggttt atgtcacata gcacccctgaa tggaatctgt gggaccaagc actggatca	660
agagccagat gttcttcacg atgacaccat cttgaaatt ttcaacaacc gtaactgcca	720
gagtctgaaa gacaaaccca aggtcatcat catgcaagcc tgccgaggca atggctgg	780
gattgttgg ttcaccactg acagtggaaa agccagtgcataactcatg gtcggcttt	840
gcaaggtaac atctgtatg atgctgttac aaaggctcat gtggaaaagg acttcattgc	900
tttcaaatttccacccataatgttcc ttggagacat gaaacaaatg gctctgtt	960
catttccaa attatctact acttcagaga gtattttgg agtcatcatc tagaggaaat	1020
ttttcaaaag gttcaacatttcatgagac cccaaatata ctgaccaggc tgccaccat	1080
tgaaagacta tccatgacac gatatttcta tcttttctt gggattaa	1129

<210> 71

<211> 372

<212> PRT

<213> Homo sapiens

<400> 71

Met Ala Asp Glu Lys Pro Ser Asn Gly Val Leu Val His Met Val Lys  
1 5 10 15

Leu Leu Ile Lys Thr Phe Leu Asp Gly Ile Phe Asp Asp Leu Met Glu  
20 25 30

Asn Asn Val Leu Asn Thr Asp Glu Ile His Leu Ile Gly Lys Cys Leu  
35 40 45

Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
50 55 60

Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80

Lys Lys Gln Leu Ser Ser Ala Leu Leu Glu Ile Gln Gly Ala Gln Pro  
85 90 95

Ser Gly Lys Leu Lys Leu Cys Pro His Ala His Phe His Glu Leu Lys  
100 105 110

Thr Lys Arg Ala Asp Glu Ile Tyr Pro Val Met Glu Lys Glu Arg Arg  
115 120 125

Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His  
130 135 140

Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Asp Leu Leu Glu  
145 150 155 160

Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr Ala Gln Glu  
165 170 175

Met Glu Thr Ala Leu Arg Gln Phe Ala Ala His Pro Glu His Gln Ser  
180 185 190

Ser Asp Ser Thr Phe Leu Val Phe Met Ser His Ser Ile Leu Asn Gly  
195 200 205

Ile Cys Gly Thr Lys His Trp Asp Gln Glu Pro Asp Val Leu His Asp  
210 215 220

Asp Thr Ile Phe Glu Ile Phe Asn Asn Arg Asn Cys Gln Ser Leu Lys  
225 230 235 240

Asp Lys Pro Lys Val Ile Ile Met Gln Ala Cys Arg Gly Asn Gly Ala  
245 250 255

Gly Ile Val Trp Phe Thr Thr Asp Ser Gly Lys Ala Ser Ala Asp Thr  
260 265 270

His Gly Arg Leu Leu Gln Gly Asn Ile Cys Asn Asp Ala Val Thr Lys  
275 280 285

Ala His Val Glu Lys Asp Phe Ile Ala Phe Lys Ser Ser Thr Pro His  
290 295 300

Asn Val Ser Trp Arg His Glu Thr Asn Gly Ser Val Phe Ile Ser Gln  
305 310 315 320

Ile Ile Tyr Tyr Phe Arg Glu Tyr Ser Trp Ser His His Leu Glu Glu  
325 330 335

Ile Phe Gln Lys Val Gln His Ser Phe Glu Thr Pro Asn Ile Leu Thr  
340 345 350

Gln Leu Pro Thr Ile Glu Arg Leu Ser Met Thr Arg Tyr Phe Tyr Leu  
355 360 365

Phe Pro Gly Asn  
370

<210> 72  
<211> 1130  
<212> DNA  
<213> Homo sapiens

<400> 72  
tgattgccat ggctgatgag aaaccatcca acgggtttct ggtccacatg gtgaagttgc 60  
tgatcaagac cttcttagat ggcatttttg atgatttgat ggaaaataat gtgttaaata 120  
cagatgagat acaccttata ggaaaatgtc taaagttgt ggtgagcaat gctgaaaacc 180  
tggttgatga tatcaactgag acagctaaa ttgcaggcaa aatatttagg gaacacctgt 240  
ggaattccaa aaaacagctg agttcagctc ttctggaaat ccagggtgcc caacccagtg 300  
gcaagttaaa gctttgtcct catgctcaact tccatgaact aaagacaaaa agggcagatg 360  
agatatatcc agtgatggag aaagagaggc gaacatgcct ggccctcaac atccgcaaca 420  
aagaattcaa ctatcttcat aatcgaaaatg gttctgaact tgacctttg gggatgcgag 480  
atctacttga aaaccttggaa tactcagtgg ttataaaaga gaatctcaca gctcaggaaa 540

tggaaacagc actaaggcag tttgctgctc acccagagca ccagtcctca gacagcacat 600  
tcctgggtt tatgtcacat agcatcctga atggaatctg tgggaccaag cactgggatc 660  
aagagccaga tggtcacat gatgacacca tcttgaaat tttcaacaac cgtaactgcc 720  
agagtcgaa agacaaaccc aaggtcatca tcatgcaagc ctggcgaggc aatggtgctg 780  
ggattgttg gttcaccact gacagtggaa aagccagtgc agataactcat ggtcggctct 840  
tgcaaggtaa catctgtaaat gatgctgtta caaaggctca tggaaaag gacttcattg 900  
ctttcaaaatc ttccacacca cataatgttt ctggagaca tggaaaat ggctctgtct 960  
tcatttccca aattatctac tacttcagag agtattctt gagtcatcat cttagggaaa 1020  
tttttcaaaa ggttcaacat tcatttgaga ccccaaataat actgacccag ctgcccacca 1080  
ttgaaaagact atccatgaca cgatatttct atctcttcc tggaaattaa 1130

<210> 73  
<211> 373  
<212> PRT  
<213> Homo sapiens  
  
<400> 73

Met Ala Asp Glu Lys Pro Ser Asn Gly Val Leu Val His Met Val Lys  
1 5 10 15

Leu Leu Ile Lys Thr Phe Leu Asp Gly Ile Phe Asp Asp Leu Met Glu  
20 25 30

Asn Asn Val Leu Asn Thr Asp Glu Ile His Leu Ile Gly Lys Cys Leu  
35 40 45

Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
50 55 60

Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80

Lys Lys Gln Leu Ser Ser Ala Leu Leu Glu Ile Gln Gly Ala Gln Pro  
85 90 95

Ser Gly Lys Leu Lys Leu Cys Pro His Ala His Phe His Glu Leu Lys  
100 105 110

Thr Lys Arg Ala Asp Glu Ile Tyr Pro Val Met Glu Lys Glu Arg Arg  
115 120 125

Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His  
130 135 140

Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Arg Asp Leu Leu  
145 150 155 160

Glu Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr Ala Gln  
165 170 175

Glu Met Glu Thr Ala Leu Arg Gln Phe Ala Ala His Pro Glu His Gln

180	185	190
Ser Ser Asp Ser Thr Phe Leu Val Phe Met Ser His Ser Ile Leu Asn		
195	200	205
Gly Ile Cys Gly Thr Lys His Trp Asp Gln Glu Pro Asp Val Leu His		
210	215	220
Asp Asp Thr Ile Phe Glu Ile Phe Asn Asn Arg Asn Cys Gln Ser Leu		
225	230	235
240		
Lys Asp Lys Pro Lys Val Ile Ile Met Gln Ala Cys Arg Gly Asn Gly		
245	250	255
Ala Gly Ile Val Trp Phe Thr Thr Asp Ser Gly Lys Ala Ser Ala Asp		
260	265	270
Thr His Gly Arg Leu Leu Gln Gly Asn Ile Cys Asn Asp Ala Val Thr		
275	280	285
Lys Ala His Val Glu Lys Asp Phe Ile Ala Phe Lys Ser Ser Thr Pro		
290	295	300
His Asn Val Ser Trp Arg His Glu Thr Asn Gly Ser Val Phe Ile Ser		
305	310	315
320		
Gln Ile Ile Tyr Tyr Phe Arg Glu Tyr Ser Trp Ser His His Leu Glu		
325	330	335
Glu Ile Phe Gln Lys Val Gln His Ser Phe Glu Thr Pro Asn Ile Leu		
340	345	350
Thr Gln Leu Pro Thr Ile Glu Arg Leu Ser Met Thr Arg Tyr Phe Tyr		
355	360	365
Leu Phe Pro Gly Asn		
370		

<210> 74  
<211> 867  
<212> DNA  
<213> Homo sapiens

<400> 74  
tcagctttc tgaaatcca ggggccaa cccagtggca agttaaagct ttgtcctcat 60  
gctcaactcc atgaactaaa gacaaaaagg gcagatgaga tatatccagt gatggagaaa 120  
gagaggcgaa catgcctggc cctcaacatc cgcaacaaag aattcaacta tcttcataat 180  
cgaaatggtt ctgaacttga cctttgggg atgcgagatc tactgaaaa ctttggatac 240  
tcagtggtta taaaagagaa tctcacagct cagaaatgg aaacagcact aaggcagttt 300  
gctgctcacc cagagcacca gtcctcagac agcacattcc tggtgttat gtcacatagc 360  
atcctgaatg gaatctgtgg gaccaagcac tggatcaag agccagatgt tcttcacgat 420  
gacaccatct ttgaatattt caacaaccgt aactgccaga gtctgaaaaga caaacccaag 480  
gtcatcatca tgcaagcctg ccgaggcaat ggtgctggga ttgtttggtt caccactgac 540

agtggaaaag ccagtgcaga tactcatggt cggtcttgc aaggtaacat ctgtaatgtat 600  
gctgttacaa aggctcatgt ggaaaaggac ttcattgctt tcaaatttc cacaccacat 660  
aatgtttctt ggagacatga aacaaatggc tctgtcttca tttccaaat tatctactac 720  
ttcagagagt attcttggag tcatcatcta gaggaaattt ttcaaaaggt tcaacattca 780  
tttgagaccc caaatatact gacccagctg cccaccattg aaagactatc catgacacgaa 840  
tatttctatc tctttcctgg gaattaa 867

0  
<210> 75  
<211> 288  
<212> PRT  
<213> Homo sapiens

<400> 75  
Ser Ala Leu Leu Glu Ile Gln Gly Ala Gln Pro Ser Gly Lys Leu Lys 1 5 10 15  
Leu Cys Pro His Ala His Phe His Glu Leu Lys Thr Lys Arg Ala Asp 20 25 30  
Glu Ile Tyr Pro Val Met Glu Lys Glu Arg Arg Thr Cys Leu Ala Leu 35 40 45  
Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His Asn Arg Asn Gly Ser 50 55 60  
Glu Leu Asp Leu Leu Gly Met Arg Asp Leu Leu Glu Asn Leu Gly Tyr 65 70 75 80  
Ser Val Val Ile Lys Glu Asn Leu Thr Ala Gln Glu Met Glu Thr Ala 85 90 95  
Leu Arg Gln Phe Ala Ala His Pro Glu His Gln Ser Ser Asp Ser Thr 100 105 110  
Phe Leu Val Phe Met Ser His Ser Ile Leu Asn Gly Ile Cys Gly Thr 115 120 125  
Lys His Trp Asp Gln Glu Pro Asp Val Leu His Asp Asp Thr Ile Phe 130 135 140  
Glu Ile Phe Asn Asn Arg Asn Cys Gln Ser Leu Lys Asp Lys Pro Lys 145 150 155 160  
Val Ile Ile Met Gln Ala Cys Arg Gly Asn Gly Ala Gly Ile Val Trp 165 170 175  
Phe Thr Thr Asp Ser Gly Lys Ala Ser Ala Asp Thr His Gly Arg Leu 180 185 190  
Leu Gln Gly Asn Ile Cys Asn Asp Ala Val Thr Lys Ala His Val Glu 195 200 205  
Lys Asp Phe Ile Ala Phe Lys Ser Ser Thr Pro His Asn Val Ser Trp 210 215 220  
Arg His Glu Thr Asn Gly Ser Val Phe Ile Ser Gln Ile Ile Tyr Tyr

225

230

235

240

Phe Arg Glu Tyr Ser Trp Ser His His Leu Glu Glu Ile Phe Gln Lys  
245 250 255

Val Gln His Ser Phe Glu Thr Pro Asn Ile Leu Thr Gln Leu Pro Thr  
260 265 270

Ile Glu Arg Leu Ser Met Thr Arg Tyr Phe Tyr Leu Phe Pro Gly Asn  
275 280 285

<210> 76

<211> 1130

<212> DNA

<213> Homo sapiens

<400> 76

tgattgccat ggctgatgag aaaccatcca acgggtttct ggtccacatg gtgaagttgc 60  
tgatcaagac ctttcttagat ggcatttttg atgatttgat ggaaaataat gtgttaata 120  
cagatgagat acaccttata ggaaaatgtc taaagttgt ggtgagcaat gctgaaaacc 180  
tggttgatga tatcaactgag acagctcaa ttgcaggcaa aatatttagg gaacacctgt 240  
ggaattccaa aaaacagctg ttttcagctc ttctggaaat ccagggtgcc caacccagtg 300  
gcaagttaaa gctttgtcct catgcact tccatgaact aaagacaaaa agggcagatg 360  
agatataatcc agtgatggag aaagagaggc gaacatgcct ggccctcaac atccgcaaca 420  
aagaattcaa ctatcttcat aatcgaaatg gttctgaact tgaccttttgc 480  
atctacttga aaaccttggaa tactcagtgg ttataaaaga gaatctcaca gctcaggaaa 540  
tggaaacagc actaaggcag tttgctgctc acccagagca ccagtcctca gacagcacat 600  
tcctgggttt tatgtcacat ggcacatcata atggaatctg tgggaccaag cactgggatc 660  
aagagccaga ttttcttcac gatgacacca tctttgaaat tttcaacaac cgtaactgccc 720  
agagtctgaa agacaaaccc aaggtcatca tcatgcacgc ctgcgcaggc aatggtgctg 780  
ggattgtttt gttcaccact gacagtgaa aagccagtgc agatactcat ggtcggtct 840  
tgcaaggtaa catctgtaat gatgctgtta caaggctca tggaaaag gacttcatttgc 900  
ctttcaaaatc ttccacacca cataatgttt cttggagaca tgaaaacaaat ggctctgtct 960  
tcatttccca aattatctac tacttcagag agtattcttgc gagtcatcat cttagggaaa 1020  
tttttcaaaa ggttcaacat tcatttggaa ccccaaataat actgaccagg ctgccccacca 1080  
ttgaaaacttccatgaca cgatatttcttgc atctcttcc tggaaaattaa 1130

<210> 77

<211> 373

<212> PRT

<213> Homo sapiens

<400> 77

Met Ala Asp Glu Lys Pro Ser Asn Gly Val Leu Val His Met Val Lys

1 5 10 15

Leu Leu Ile Lys Thr Phe Leu Asp Gly Ile Phe Asp Asp Leu Met Glu  
20 25 30

Asn Asn Val Leu Asn Thr Asp Glu Ile His Leu Ile Gly Lys Cys Leu  
35 40 45

Lys Phe Val Val Ser Asn Ala Glu Asn Leu Val Asp Asp Ile Thr Glu  
50 55 60

Thr Ala Gln Ile Ala Gly Lys Ile Phe Arg Glu His Leu Trp Asn Ser  
65 70 75 80

Lys Lys Gln Leu Ser Ser Ala Leu Leu Glu Ile Gln Gly Ala Gln Pro  
85 90 95

Ser Gly Lys Leu Lys Leu Cys Pro His Ala His Phe His Glu Leu Lys  
100 105 110

Thr Lys Arg Ala Asp Glu Ile Tyr Pro Val Met Glu Lys Glu Arg Arg  
115 120 125

Thr Cys Leu Ala Leu Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His  
130 135 140

Asn Arg Asn Gly Ser Glu Leu Asp Leu Leu Gly Met Arg Asp Leu Leu  
145 150 155 160

Glu Asn Leu Gly Tyr Ser Val Val Ile Lys Glu Asn Leu Thr Ala Gln  
165 170 175

Glu Met Glu Thr Ala Leu Arg Gln Phe Ala Ala His Pro Glu His Gln  
180 185 190

Ser Ser Asp Ser Thr Phe Leu Val Phe Met Ser His Gly Ile Leu Asn  
195 200 205

Gly Ile Cys Gly Thr Lys His Trp Asp Gln Glu Pro Asp Val Leu His  
210 215 220

Asp Asp Thr Ile Phe Glu Ile Phe Asn Asn Arg Asn Cys Gln Ser Leu  
225 230 235 240

Lys Asp Lys Pro Lys Val Ile Ile Met Gln Ala Cys Arg Gly Asn Gly  
245 250 255

Ala Gly Ile Val Trp Phe Thr Asp Ser Gly Lys Ala Ser Ala Asp  
260 265 270

Thr His Gly Arg Leu Leu Gln Gly Asn Ile Cys Asn Asp Ala Val Thr  
275 280 285

Lys Ala His Val Glu Lys Asp Phe Ile Ala Phe Lys Ser Ser Thr Pro  
290 295 300

His Asn Val Ser Trp Arg His Glu Thr Asn Gly Ser Val Phe Ile Ser  
305 310 315 320

Gln Ile Ile Tyr Tyr Phe Arg Glu Tyr Ser Trp Ser His His Leu Glu

325

330

335

Glu Ile Phe Gln Lys Val Gln His Ser Phe Glu Thr Pro Asn Ile Leu  
340 345 350

Thr Gln Leu Pro Thr Ile Glu Arg Leu Ser Met Thr Arg Tyr Phe Tyr  
355 360 365

Leu Phe Pro Gly Asn  
370

<210> 78

<211> 867

<212> DNA

<213> Homo sapiens

<400> 78

tcaagctcttc tggaaatcca gggtgcccaa cccagtggca agttaaagct ttgtcctcat 60

gctcaacttcc atgaactaaa gacaaaaagg gcagatgaga tataatccagt gatggagaaa 120

gagagggcgaa catgcctggc cctcaacatc cgcaacaaag aattcaacta tcttcataat 180

cgaaatggtt ctgaacttga cctttgggg atgcgagatc tacttgaaaa ccttggatac 240

tcaagtggta taaaagagaa tctcacagct cagggaaatgg aaacagcact aaggcagttt 300

gctgctcacc cagagcacca gtcctcagac agcacattcc tgggttttat gtcacatggc 360

atcctgaatg gaatctgtgg gaccaagcac tgggatcaag agccagatgt tcttcacgat 420

gacaccatct ttgaaatttt caacaaccgt aactgccaga gtctgaaaga caaacccaaag 480

gtcatcatca tgcaaggcctg ccgaggcaat ggtgctgggaa ttgtttgggtt caccactgac 540

agtggaaaag ccagtgcaga tactcatggt cggtcttgc aaggtaacat ctgtaatgat 600

gctgttacaa aggctcatgt ggaaaaggac ttcattgctt tcaaatttc cacaccacat 660

aatgtttctt ggagacatga aacaaatggc tctgtcttca tttcccaaat tatctactac 720

ttcagagagt attcttggag tcatcatcta gaggaaattt ttcaaaaggt tcaacattca 780

tttgagaccc caaatatact gacccagctg cccaccattg aaagactatc catgacacgaa 840

tatttctatc tcttcctgg gaattaa 867

<210> 79

<211> 288

<212> PRT

<213> Homo sapiens

<400> 79

Ser Ala Leu Leu Glu Ile Gln Gly Ala Gln Pro Ser Gly Lys Leu Lys  
1 5 10 15

Leu Cys Pro His Ala His Phe His Glu Leu Lys Thr Lys Arg Ala Asp  
20 25 30

Glu Ile Tyr Pro Val Met Glu Lys Glu Arg Arg Thr Cys Leu Ala Leu  
35 40 45

Asn Ile Arg Asn Lys Glu Phe Asn Tyr Leu His Asn Arg Asn Gly Ser  
50 55 60

Glu Leu Asp Leu Leu Gly Met Arg Asp Leu Leu Glu Asn Leu Gly Tyr  
65 70 75 80

Ser Val Val Ile Lys Glu Asn Leu Thr Ala Gln Glu Met Glu Thr Ala  
85 90 95

Leu Arg Gln Phe Ala Ala His Pro Glu His Gln Ser Ser Asp Ser Thr  
100 105 110

Phe Leu Val Phe Met Ser His Gly Ile Leu Asn Gly Ile Cys Gly Thr  
115 120 125

Lys His Trp Asp Gln Glu Pro Asp Val Leu His Asp Asp Thr Ile Phe  
130 135 140

Glu Ile Phe Asn Asn Arg Asn Cys Gln Ser Leu Lys Asp Lys Pro Lys  
145 150 155 160

Val Ile Ile Met (Gln Ala Cys Arg Gly) Asn Gly Ala Gly Ile Val Trp  
165 170 175

Phe Thr Thr Asp Ser Gly Lys Ala Ser Ala Asp Thr His Gly Arg Leu  
180 185 190

Leu Gln Gly Asn Ile Cys Asn Asp Ala Val Thr Lys Ala His Val Glu  
195 200 205

Lys Asp Phe Ile Ala Phe Lys Ser Ser Thr Pro His Asn Val Ser Trp  
210 215 220

Arg His Glu Thr Asn Gly Ser Val Phe Ile Ser Gln Ile Ile Tyr Tyr  
225 230 235 240

Phe Arg Glu Tyr Ser Trp Ser His His Leu Glu Glu Ile Phe Gln Lys  
245 250 255

Val Gln His Ser Phe Glu Thr Pro Asn Ile Leu Thr Gln Leu Pro Thr  
260 265 270

Ile Glu Arg Leu Ser Met Thr Arg Tyr Phe Tyr Leu Phe Pro Gly Asn  
275 280 285

<210> 80  
<211> 404  
<212> PRT  
<213> Homo Sapien

<400> 80  
Met Ala Asp Lys Val Leu Lys Glu Lys Arg Lys Leu Phe Ile Arg Ser  
1 5 10 15

Met Gly Glu Gly Thr Ile Asn Gly Leu Leu Asp Glu Leu Leu Gln Thr  
20 25 30

Arg Val Leu Asn Lys Glu Glu Met Glu Lys Val Lys Arg Glu Asn Ala  
35 40 45

Thr Val Met Asp Lys Thr Arg Ala Leu Ile Asp Ser Val Ile Pro Lys  
50 55 60

Gly Ala Gln Ala Cys Gln Ile Cys Ile Thr Tyr Ile Cys Glu Glu Asp  
65 70 75 80

Ser Tyr Leu Ala Gly Thr Leu Gly Leu Ser Ala Asp Gln Thr Ser Gly  
85 90 95

Asn Tyr Leu Asn Met Gln Asp Ser Gln Gly Val Leu Ser Ser Phe Pro  
100 105 110

Ala Pro Gln Ala Val Gln Asp Asn Pro Ala Met Pro Thr Ser Ser Gly  
115 120 125

Ser Glu Gly Asn Val Lys Leu Cys Ser Leu Glu Glu Ala Gln Arg Ile  
130 135 140

Trp Lys Gln Lys Ser Ala Glu Ile Tyr Pro Ile Met Asp Lys Ser Ser  
145 150 155 160

Arg Thr Arg Leu Ala Leu Ile Ile Cys Asn Glu Glu Phe Asp Ser Ile  
165 170 175

Pro Arg Arg Thr Gly Ala Glu Val Asp Ile Thr Gly Met Thr Met Leu  
180 185 190

Leu Gln Asn Leu Gly Tyr Ser Val Asp Val Lys Lys Asn Leu Thr Ala  
195 200 205

Ser Asp Met Thr Thr Glu Leu Glu Ala Phe Ala His Arg Pro Glu His  
210 215 220

Lys Thr Ser Asp Ser Thr Phe Leu Val Phe Met Ser His Gly Ile Arg  
225 230 235 240

Glu Gly Ile Cys Gly Lys Lys His Ser Glu Gln Val Pro Asp Ile Leu  
245 250 255

Gln Leu Asn Ala Ile Phe Asn Met Leu Asn Thr Lys Asn Cys Pro Ser  
260 265 270

Leu Lys Asp Lys Pro Lys Val Ile Ile Ile Gln Ala Cys Arg Gly Asp  
275 280 285

Ser Pro Gly Val Val Trp Phe Lys Asp Ser Val Gly Val Ser Gly Asn  
290 295 300

Leu Ser Leu Pro Thr Thr Glu Glu Phe Glu Asp Asp Ala Ile Lys Lys  
305 310 315 320

Ala His Ile Glu Lys Asp Phe Ile Ala Phe Cys Ser Ser Thr Pro Asp  
325 330 335

Asn Val Ser Trp Arg His Pro Thr Met Gly Ser Val Phe Ile Gly Arg  
340 345 350

Leu Ile Glu His Met Gln Glu Tyr Ala Cys Ser Cys Asp Val Glu Glu  
355 360 365

Ile Phe Arg Lys Val Arg Phe Ser Phe Glu Gln Pro Asp Gly Arg Ala  
370 375 380

Gln Met Pro Thr Thr Glu Arg Val Thr Leu Thr Arg Cys Phe Tyr Leu  
385 390 395 400

Phe Pro Gly His

<210> 81  
<211> 377  
<212> PRT  
<213> Homo sapiens

<400> 81  
Met Ala Glu Asp Lys His Asn Lys Asn Pro Leu Lys Met Leu Glu Ser  
1 5 10 15  
Leu Gly Lys Glu Leu Ile Ser Gly Leu Leu Asp Asp Phe Val Glu Lys  
20 25 30  
Asn Val Leu Lys Leu Glu Glu Glu Lys Lys Ile Tyr Asp Ala  
35 40 45  
Lys Leu Gln Asp Lys Ala Arg Val Leu Val Asp Ser Ile Arg Gln Lys  
50 55 60  
Asn Gln Glu Ala Gly Gln Val Phe Val Gln Thr Phe Leu Asn Ile Asp  
65 70 75 80  
Lys Asn Ser Thr Ser Ile Lys Ala Pro Glu Glu Thr Val Ala Gly Pro  
85 90 95  
Asp Glu Ser Val Gly Ser Ala Ala Thr Leu Lys Leu Cys Pro His Glu  
100 105 110  
Glu Phe Leu Lys Leu Cys Lys Glu Arg Ala Gly Glu Ile Tyr Pro Ile  
115 120 125  
Lys Glu Arg Lys Asp Arg Thr Arg Leu Ala Leu Ile Ile Cys Asn Thr  
130 135 140  
Glu Phe Asp His Met Pro Pro Arg Asn Gly Ala Ala Leu Asp Ile Leu  
145 150 155 160  
Gly Met Lys Gln Leu Leu Glu Gly Leu Gly Tyr Thr Val Glu Val Glu  
165 170 175  
Glu Lys Leu Thr Ala Arg Asp Met Glu Ser Val Leu Trp Lys Phe Ala  
180 185 190  
Ala Arg Glu Glu His Lys Ser Ser Asp Ser Thr Phe Leu Val Phe Met  
195 200 205  
Ser His Gly Ile Leu Asp Gly Ile Cys Gly Thr Met His Ser Glu Glu  
210 215 220  
Glu Pro Asp Val Leu Pro Tyr Asp Thr Ile Phe Arg Thr Phe Asn Asn  
225 230 235 240  
Arg Asn Cys Leu Ser Leu Lys Asp Lys Pro Lys Val Ile Ile Val Gln  
245 250 255  
Ala Cys Arg Gly Ala Asn Arg Gly Glu Leu Trp Val Ser Asp Ser Pro  
260 265 270  
Pro Ala Leu Ala Asp Ser Phe Ser Gln Ser Ser Glu Asn Leu Glu Glu  
275 280 285

Asp Ala Val Tyr Lys Thr His Val Glu Lys Asp Phe Ile Ala Phe Cys  
290 295 300

Ser Ser Thr Pro His Asn Val Ser Trp Arg Asp Ile Lys Lys Gly Ser  
305 310 315 320

Leu Phe Ile Thr Arg Leu Ile Thr Cys Phe Gln Lys Tyr Ala Trp Cys  
325 330 335

Cys His Leu Glu Glu Val Phe Arg Lys Val Gln Gln Ser Phe Glu Lys  
340 345 350

Pro Asn Val Lys Ala Gln Met Pro Thr Val Glu Arg Leu Ser Met Thr  
355 360 365

Arg Tyr Phe Tyr Leu Phe Pro Gly Asn  
370 375

<210> 82  
<211> 377  
<212> PRT  
<213> Homo sapiens

<400> 82  
Met Ala Glu Gly Asn His Arg Lys Lys Pro Leu Lys Val Leu Glu Ser  
1 5 10 15

Leu Gly Lys Asp Phe Leu Thr Gly Val Leu Asp Asn Leu Val Glu Gln  
20 25 30

Asn Val Leu Asn Trp Lys Glu Glu Lys Lys Tyr Tyr Asp Ala  
35 40 45

Lys Thr Glu Asp Lys Val Arg Val Met Ala Asp Ser Met Gln Glu Lys  
50 55 60

Gln Arg Met Ala Gly Gln Met Leu Leu Gln Thr Phe Phe Asn Ile Asp  
65 70 75 80

Gln Ile Ser Pro Asn Lys Ala His Pro Asn Met Glu Ala Gly Pro  
85 90 95

Pro Glu Ser Gly Glu Ser Thr Asp Ala Leu Lys Leu Cys Pro His Glu  
100 105 110

Glu Phe Leu Arg Leu Cys Lys Glu Arg Ala Glu Glu Ile Tyr Pro Ile  
115 120 125

Lys Glu Arg Asn Asn Arg Thr Arg Leu Ala Leu Ile Ile Cys Asn Thr  
130 135 140

Glu Phe Asp His Leu Pro Pro Arg Asn Gly Ala Asp Phe Asp Ile Thr  
145 150 155 160

Gly Met Lys Glu Leu Leu Glu Gly Leu Asp Tyr Ser Val Asp Val Glu  
165 170 175

Glu Asn Leu Thr Ala Arg Asp Met Glu Ser Ala Leu Arg Ala Phe Ala  
180 185 190

Thr Arg Pro Glu His Lys Ser Ser Asp Ser Thr Phe Leu Val Leu Met  
195 200 205

Ser His Gly Ile Leu Glu Gly Ile Cys Gly Thr Val His Asp Glu Lys  
210 215 220

Lys Pro Asp Val Leu Leu Tyr Asp Thr Ile Phe Gln Ile Phe Asn Asn  
225 230 235 240

Arg Asn Cys Leu Ser Leu Lys Asp Lys Pro Lys Val Ile Ile Val Gln  
245 250 255

Ala Cys Arg Gly Ala Asn Arg Gly Glu Leu Trp Val Arg Asp Ser Pro  
260 265 270

Ala Ser Leu Glu Val Ala Ser Ser Gln Ser Ser Glu Asn Leu Glu Glu  
275 280 285

Asp Ala Val Tyr Lys Thr His Val Glu Lys Asp Phe Ile Ala Phe Cys  
290 295 300

Ser Ser Thr Pro His Asn Val Ser Trp Arg Asp Ser Thr Met Gly Ser  
305 310 315 320

Ile Phe Ile Thr Gln Leu Ile Thr Cys Phe Gln Lys Tyr Ser Trp Cys  
325 330 335

Cys His Leu Glu Glu Val Phe Arg Lys Val Gln Gln Ser Phe Glu Thr  
340 345 350

Pro Arg Ala Lys Ala Gln Met Pro Thr Ile Glu Arg Leu Ser Met Thr  
355 360 365

Arg Tyr Phe Tyr Leu Phe Pro Gly Asn  
370 375

<210> 83

<211> 418

<212> PRT

<213> Homo sapiens

<400> 83

Met Phe Lys Gly Ile Leu Gln Ser Gly Leu Asp Asn Phe Val Ile Asn  
1 5 10 15

His Met Leu Lys Asn Asn Val Ala Gly Gln Thr Ser Ile Gln Thr Leu  
20 25 30

Val Pro Asn Thr Asp Gln Lys Ser Thr Ser Val Lys Lys Asp Asn His  
35 40 45

Lys Lys Lys Thr Val Lys Met Leu Glu Tyr Leu Gly Lys Asp Val Leu  
50 55 60

His Gly Val Phe Asn Tyr Leu Ala Lys His Asp Val Leu Thr Leu Lys  
65 70 75 80

Glu Glu Glu Lys Lys Tyr Tyr Asp Ala Lys Ile Glu Asp Lys Ala  
85 90 95

Leu Ile Leu Val Asp Ser Leu Arg Lys Asn Arg Val Ala His Gln Met  
100 105 110

Phe Thr Gln Thr Leu Leu Asn Met Asp Gln Lys Ile Thr Ser Val Lys  
115 120 125

Pro Leu Leu Gln Ile Glu Ala Gly Pro Pro Glu Ser Ala Glu Ser Thr  
130 135 140

Asn Ile Leu Lys Leu Cys Pro Arg Glu Glu Phe Leu Arg Leu Cys Lys  
145 150 155 160

Lys Asn His Asp Glu Ile Tyr Pro Ile Lys Lys Arg Glu Asp Arg Arg  
165 170 175

Arg Leu Ala Leu Ile Ile Cys Asn Thr Lys Phe Asp His Leu Pro Ala  
180 185 190

Arg Asn Gly Ala His Tyr Asp Ile Val Gly Met Lys Arg Leu Leu Gln  
195 200 205

Gly Leu Gly Tyr Thr Val Val Asp Glu Lys Asn Leu Thr Ala Arg Asp  
210 215 220

Met Glu Ser Val Leu Arg Ala Phe Ala Ala Arg Pro Glu His Lys Ser  
225 230 235 240

Ser Asp Ser Thr Phe Leu Val Leu Met Ser His Gly Ile Leu Glu Gly  
245 250 255

Ile Cys Gly Thr Ala His Lys Lys Lys Pro Asp Val Leu Leu Tyr  
260 265 270

Asp Thr Ile Phe Gln Ile Phe Asn Asn Arg Asn Cys Leu Ser Leu Lys  
275 280 285

Asp Lys Pro Lys Val Ile Ile Val Gln Ala Cys Arg Gly Glu Lys His  
290 295 300

Gly Glu Leu Trp Val Arg Asp Ser Pro Ala Ser Leu Ala Val Ile Ser  
305 310 315 320

Ser Gln Ser Ser Glu Asn Leu Glu Ala Asp Ser Val Cys Lys Ile His  
325 330 335

Glu Glu Lys Asp Phe Ile Ala Phe Cys Ser Ser Thr Pro His Asn Val  
340 345 350

Ser Trp Arg Asp Arg Thr Arg Gly Ser Ile Phe Ile Thr Glu Leu Ile  
355 360 365

Thr Cys Phe Gln Lys Tyr Ser Cys Cys Cys His Leu Met Glu Ile Phe  
370 375 380

Arg Lys Val Gln Lys Ser Phe Glu Val Pro Gln Ala Lys Ala Gln Met  
385 390 395 400

Pro Thr Ile Glu Arg Ala Thr Leu Thr Arg Asp Phe Tyr Leu Phe Pro  
405 410 415

Gly Asn

<210> 84  
<211> 419  
<212> PRT  
<213> Mouse

<400> 84  
Met Ala Ala Arg Arg Thr His Glu Arg Asp Pro Ile Tyr Lys Ile Lys  
1 5 10 15  
Gly Leu Ala Lys Asp Met Leu Asp Gly Val Phe Asp Asp Leu Val Glu  
20 25 30  
Lys Asn Val Leu Asn Gly Asp Glu Leu Leu Lys Ile Gly Glu Ser Ala  
35 40 45  
Ser Phe Ile Leu Asn Lys Ala Glu Asn Leu Val Glu Asn Phe Leu Glu  
50 55 60  
Lys Thr Asp Met Ala Gly Lys Ile Phe Ala Gly His Ile Ala Asn Ser  
65 70 75 80  
Gln Glu Gln Leu Ser Leu Gln Phe Ser Asn Asp Glu Asp Asp Gly Pro  
85 90 95  
Gln Lys Ile Cys Thr Pro Ser Ser Pro Ser Glu Ser Lys Arg Lys Val  
100 105 110  
Glu Asp Asp Glu Met Glu Val Asn Ala Gly Leu Ala His Glu Ser His  
115 120 125  
Leu Met Leu Thr Ala Pro His Gly Leu Gln Ser Ser Glu Val Gln Asp  
130 135 140  
Thr Leu Lys Leu Cys Pro Arg Asp Gln Phe Cys Lys Ile Lys Thr Glu  
145 150 155 160  
Arg Ala Lys Glu Ile Tyr Pro Val Met Glu Lys Glu Gly Arg Thr Arg  
165 170 175  
Leu Ala Leu Ile Ile Cys Asn Lys Lys Phe Asp Tyr Leu Phe Asp Arg  
180 185 190  
Asp Asn Ala Asp Thr Asp Ile Leu Asn Met Gln Glu Leu Leu Glu Asn  
195 200 205  
Leu Gly Tyr Ser Val Val Leu Lys Glu Asn Leu Thr Ala Gln Glu Met  
210 215 220  
Glu Thr Glu Leu Met Gln Phe Ala Gly Arg Pro Glu His Gln Ser Ser  
225 230 235 240  
Asp Ser Thr Phe Leu Val Phe Met Ser His Gly Ile Leu Glu Gly Ile  
245 250 255  
Cys Gly Val Lys His Arg Asn Lys Lys Pro Asp Val Leu His Asp Asp  
260 265 270  
Thr Ile Phe Lys Ile Phe Asn Asn Ser Asn Cys Arg Ser Leu Arg Asn  
275 280 285  
Lys Pro Lys Ile Leu Ile Met Gln Ala Cys Arg Gly Arg Tyr Asn Gly  
290 295 300  
Thr Ile Trp Val Ser Thr Asn Lys Gly Ile Ala Thr Ala Asp Thr Asp  
305 310 315 320  
Glu Glu Arg Val Leu Ser Cys Lys Trp Asn Asn Ser Ile Thr Lys Ala

325	330	335
His Val Glu Thr Asp Phe Ile Ala Phe Lys Ser Ser Thr Pro His Asn		
340	345	350
Ile Ser Trp Lys Val Gly Lys Thr Gly Ser Leu Phe Ile Ser Lys Leu		
355	360	365
Ile Asp Cys Phe Lys Lys Tyr Cys Trp Cys Tyr His Leu Glu Glu Ile		
370	375	380
Phe Arg Lys Val Gln His Ser Phe Glu Val Pro Gly Glu Leu Thr Gln		
385	390	395
400		
Met Pro Thr Ile Glu Arg Val Ser Met Thr Arg Tyr Phe Tyr Leu Phe		
405	410	415
Pro Gly Asn		
<210> 85		
<211> 373		
<212> PRT		
<213> Mouse		
<400> 85		
Met Ala Glu Asn Lys His Pro Asp Lys Pro Leu Lys Val Leu Glu Gln		
1	5	10
		15
Leu Gly Lys Glu Val Leu Thr Glu Tyr Leu Glu Lys Leu Val Gln Ser		
20	25	30
Asn Val Leu Lys Leu Lys Glu Glu Asp Lys Gln Lys Phe Asn Asn Ala		
35	40	45
Glu Arg Ser Asp Lys Arg Trp Val Phe Val Asp Ala Met Lys Lys Lys		
50	55	60
His Ser Lys Val Gly Glu Met Leu Leu Gln Thr Phe Phe Ser Val Asp		
65	70	75
		80
Pro Gly Ser His His Gly Glu Ala Asn Leu Glu Met Glu Glu Pro Glu		
85	90	95
Glu Ser Leu Asn Thr Leu Lys Leu Cys Ser Pro Glu Glu Phe Thr Arg		
100	105	110
Leu Cys Arg Glu Lys Thr Gln Glu Ile Tyr Pro Ile Lys Glu Ala Asn		
115	120	125
Gly Arg Thr Arg Lys Ala Leu Ile Ile Cys Asn Thr Glu Phe Lys His		
130	135	140
Leu Ser Leu Arg Tyr Gly Ala Lys Phe Asp Ile Ile Gly Met Lys Gly		
145	150	155
		160
Leu Leu Glu Asp Leu Gly Tyr Asp Val Val Val Lys Glu Glu Leu Thr		
165	170	175
Ala Glu Gly Met Glu Ser Glu Met Lys Asp Phe Ala Ala Leu Ser Glu		
180	185	190
His Gln Thr Ser Asp Ser Thr Phe Leu Val Leu Met Ser His Gly Thr		

195

200

205

Leu His Gly Ile Cys Gly Thr Met His Ser Glu Lys Thr Pro Asp Val  
210 215 220

Leu Gln Tyr Asp Thr Ile Tyr Gln Ile Phe Asn Asn Cys His Cys Pro  
225 230 235 240

Gly Leu Arg Asp Lys Pro Lys Val Ile Ile Val Gln Ala Cys Arg Gly  
245 250 255

Gly Asn Ser Gly Glu Met Trp Ile Arg Glu Ser Ser Lys Pro Gln Leu  
260 265 270

Cys Arg Gly Val Asp Leu Pro Arg Asn Met Glu Ala Asp Ala Val Lys  
275 280 285

Leu Ser His Val Glu Lys Asp Phe Ile Ala Phe Tyr Ser Thr Thr Pro  
290 295 300

His His Leu Ser Tyr Arg Asp Lys Thr Gly Gly Ser Tyr Phe Ile Thr  
305 310 315 320

Arg Leu Ile Ser Cys Phe Arg Lys His Ala Cys Ser Cys His Leu Phe  
325 330 335

Asp Ile Phe Leu Lys Val Gln Gln Ser Phe Glu Lys Ala Ser Ile His  
340 345 350

Ser Gln Met Pro Thr Ile Asp Arg Ala Thr Leu Thr Arg Tyr Phe Tyr  
355 360 365

Leu Phe Pro Gly Asn  
370

<210> 86

<211> 29

<212> DNA

<213> Primer

<400> 86

ccggatccta attcccaagga aagagatac

29

<210> 87

<211> 21

<212> DNA

<213> Primer

<400> 87

gcccaaccca gtggcaagtt a

21

<210> 88

<211> 24

<212> DNA

<213> Primer

<400> 88

gctttaactt gccactgggt tggg

24

<210> 89  
<211> 34  
<212> DNA  
<213> Primer

<400> 89  
ttcaattctt tggcgcat gttgaggccc aggc 34

<210> 90  
<211> 25  
<212> DNA  
<213> Primer

<400> 90  
gttagatctcg catccccaaa aggtc 25

<210> 91  
<211> 29  
<212> DNA  
<213> Primer

<400> 91  
gggatcccat ggctgtatgag aaaccatcc 29

<210> 92  
<211> 31  
<212> DNA  
<213> Primer

<400> 92  
cggatccctc agctttctg gaaatccagg g 31

<210> 93  
<211> 35  
<212> DNA  
<213> Primer

<400> 93  
gggatccgga agccatggct gatgagaaac catcc 35

<210> 94  
<211> 36  
<212> DNA  
<213> Primer

<400> 94  
ggtgtttatg tcacatggca tcctgaatgg aatctg 36

<210> 95  
<211> 36  
<212> DNA  
<213> Primer

<400> 95  
cagattccat tcaggatgcc atgtgacata aacacc 36

<210> 96  
<211> 29  
<212> DNA  
<213> Primer

<400> 96  
cacggatccc gccgcccattgg cagctttc

29

<210> 97  
<211> 435  
<212> PRT  
<213> Homo sapiens

<400> 97  
Met Ala Ala Asp Arg Gly Arg Arg Ile Leu Gly Val Cys Gly Met His  
1 5 10 15  
Pro His His Gln Glu Thr Leu Lys Lys Asn Arg Val Val Leu Ala Lys  
20 25 30  
Gln Leu Leu Leu Ser Glu Leu Leu Glu His Leu Leu Glu Lys Asp Ile  
35 40 45  
Ile Thr Leu Glu Met Arg Glu Leu Ile Gln Ala Lys Val Gly Ser Phe  
50 55 60  
Ser Gln Asn Val Glu Leu Leu Asn Leu Leu Pro Lys Arg Gly Pro Gln  
65 70 75 80  
Ala Phe Asp Ala Phe Cys Glu Ala Leu Arg Glu Thr Lys Gln Gly His  
85 90 95  
Leu Glu Asp Met Leu Leu Thr Thr Leu Ser Gly Leu Gln His Val Leu  
100 105 110  
Pro Pro Leu Ser Cys Asp Tyr Asp Leu Ser Leu Pro Phe Pro Val Cys  
115 120 125  
Glu Ser Cys Pro Leu Tyr Lys Lys Leu Arg Leu Ser Thr Asp Thr Val  
130 135 140  
Glu His Ser Leu Asp Asn Lys Asp Gly Pro Val Cys Leu Gln Val Lys  
145 150 155 160  
Pro Cys Thr Pro Glu Phe Tyr Gln Thr His Phe Gln Leu Ala Tyr Arg  
165 170 175  
Leu Gln Ser Arg Pro Arg Gly Leu Ala Leu Val Leu Ser Asn Val His  
180 185 190  
Phe Thr Gly Glu Lys Glu Leu Glu Phe Arg Ser Gly Gly Asp Val Asp  
195 200 205  
His Ser Thr Leu Val Thr Leu Phe Lys Leu Leu Gly Tyr Asp Val His  
210 215 220  
Val Leu Cys Asp Gln Thr Ala Gln Glu Met Gln Glu Lys Leu Gln Asn  
225 230 235 240  
Phe Ala Gln Leu Pro Ala His Arg Val Thr Asp Ser Cys Ile Val Ala  
245 250 255

Leu Leu Ser His Gly Val Glu Gly Ala Ile Tyr Gly Val Asp Gly Lys  
260 265 270

Leu Leu Gln Leu Gln Glu Val Phe Gln Leu Phe Asp Asn Ala Asn Cys  
275 280 285

Pro Ser Leu Gln Asn Lys Pro Lys Met Phe Phe Ile Gln Ala Cys Arg  
290 295 300

Gly Asp Glu Thr Asp Arg Gly Val Asp Gln Gln Asp Gly Lys Asn His  
305 310 315 320

Ala Gly Ser Pro Gly Cys Glu Glu Ser Asp Ala Gly Lys Glu Lys Leu  
325 330 335

Pro Lys Met Arg Leu Pro Thr Arg Ser Asp Met Ile Cys Gly Tyr Ala  
340 345 350

Cys Leu Lys Gly Thr Ala Ala Met Arg Asn Thr Lys Arg Gly Ser Trp  
355 360 365

Tyr Ile Glu Ala Leu Ala Gln Val Phe Ser Glu Arg Ala Cys Asp Met  
370 375 380

His Val Ala Asp Met Leu Val Lys Val Asn Ala Leu Ile Lys Asp Arg  
385 390 395 400

Glu Gly Tyr Ala Pro Gly Thr Glu Phe His Arg Cys Lys Glu Met Ser  
405 410 415

Glu Tyr Cys Ser Thr Leu Cys Arg His Leu Tyr Leu Phe Pro Gly His  
420 425 430

Pro Pro Thr  
435

<210> 98  
<211> 277  
<212> PRT  
<213> Homo sapiens

<400> 98  
Met Glu Asn Thr Glu Asn Ser Val Asp Ser Lys Ser Ile Lys Asn Leu  
1 5 10 15

Glu Pro Lys Ile Ile His Gly Ser Glu Ser Met Asp Ser Gly Ile Ser  
20 25 30

Leu Asp Asn Ser Tyr Lys Met Asp Tyr Pro Glu Met Gly Leu Cys Ile  
35 40 45

Ile Ile Asn Asn Lys Asn Phe His Lys Ser Thr Gly Met Thr Ser Arg  
50 55 60

Ser Gly Thr Asp Val Asp Ala Ala Asn Leu Arg Glu Thr Phe Arg Asn  
65 70 75 80

Leu Lys Tyr Glu Val Arg Asn Lys Asn Asp Leu Thr Arg Glu Glu Ile  
85 90 95

Val Glu Leu Met Arg Asp Val Ser Lys Glu Asp His Ser Lys Arg Ser  
100 105 110

Ser Phe Val Cys Val Leu Leu Ser His Gly Glu Glu Gly Ile Ile Phe  
115 120 125

Gly Thr Asn Gly Pro Val Asp Leu Lys Lys Ile Thr Asn Phe Phe Arg  
130 135 140

Gly Asp Arg Cys Arg Ser Leu Thr Gly Lys Pro Lys Leu Phe Ile Ile  
145 150 155 160

Gln Ala Cys Arg Gly Thr Glu Leu Asp Cys Gly Ile Glu Thr Asp Ser  
165 170 175

Gly Val Asp Asp Asp Met Ala Cys His Lys Ile Pro Val Asp Ala Asp  
180 185 190

Phe Leu Tyr Ala Tyr Ser Thr Ala Pro Gly Tyr Tyr Ser Trp Arg Asn  
195 200 205

Ser Lys Asp Gly Ser Trp Phe Ile Gln Ser Leu Cys Ala Met Leu Lys  
210 215 220

Gln Tyr Ala Asp Lys Leu Glu Phe Met His Ile Leu Thr Arg Val Asn  
225 230 235 240

Arg Lys Val Ala Thr Glu Phe Glu Ser Phe Ser Phe Asp Ala Thr Phe  
245 250 255

His Ala Lys Lys Gln Ile Pro Cys Ile Val Ser Met Leu Thr Lys Glu  
260 265 270

Leu Tyr Phe Tyr His  
275

<210> 99  
<211> 293  
<212> PRT  
<213> Homo sapiens

<400> 99  
Met Ser Ser Ala Ser Gly Leu Arg Arg Gly His Pro Ala Gly Gly Glu  
1 5 10 15

Glu Asn Met Thr Glu Thr Asp Ala Phe Tyr Lys Arg Glu Met Phe Asp  
20 25 30

Pro Ala Glu Lys Tyr Lys Met Asp His Arg Arg Arg Gly Ile Ala Leu  
35 40 45

Ile Phe Asn His Glu Arg Phe Phe Trp His Leu Thr Leu Pro Glu Arg  
50 55 60

Arg Arg Thr Cys Ala Asp Arg Asp Asn Leu Thr Arg Arg Phe Ser Asp  
65 70 75 80

Leu Gly Phe Glu Val Lys Cys Phe Asn Asp Leu Lys Ala Glu Glu Leu  
85 90 95

Leu Leu Lys Ile His Glu Val Ser Thr Val Ser His Ala Asp Ala Asp  
100 105 110

Cys Phe Val Cys Val Phe Leu Ser His Gly Glu Gly Asn His Ile Tyr  
115 120 125

Ala Tyr Asp Ala Lys Ile Glu Ile Gln Thr Leu Thr Gly Leu Phe Lys  
130 135 140

Gly Asp Lys Cys His Ser Leu Val Gly Lys Pro Lys Ile Phe Ile Ile  
145 150 155 160

Gln Ala Cys Arg Gly Asn Gln His Asp Val Pro Val Ile Pro Leu Asp  
165 170 175

Val Val Asp Asn Gln Thr Glu Lys Leu Asp Thr Asn Ile Thr Glu Val  
180 185 190

Asp Ala Ala Ser Val Tyr Thr Leu Pro Ala Gly Ala Asp Phe Leu Met  
195 200 205

Cys Tyr Ser Val Ala Glu Gly Tyr Tyr Ser His Arg Glu Thr Val Asn  
210 215 220

Gly Ser Trp Tyr Ile Gln Asp Leu Cys Glu Met Leu Gly Lys Tyr Gly  
225 230 235 240

Ser Ser Leu Glu Phe Thr Glu Leu Leu Thr Leu Val Asn Arg Lys Val  
245 250 255

Ser Gln Arg Arg Val Asp Phe Cys Lys Asp Pro Ser Ala Ile Gly Lys  
260 265 270

Lys Gln Val Pro Cys Phe Ala Ser Met Leu Thr Lys Lys Leu His Phe  
275 280 285

Phe Pro Lys Ser Asn  
290

<210> 100  
<211> 303  
<212> PRT  
<213> Homo sapiens

<400> 100  
Met Ala Asp Asp Gln Gly Cys Ile Glu Glu Gln Gly Val Glu Asp Ser  
1 5 10 15

Ala Asn Glu Asp Ser Val Asp Ala Lys Pro Asp Arg Ser Ser Phe Val  
20 25 30

Pro Ser Leu Phe Ser Lys Lys Lys Asn Val Thr Met Arg Ser Ile  
35 40 45

Lys Thr Thr Arg Asp Arg Val Pro Thr Tyr Gln Tyr Asn Met Asn Phe  
50 55 60

Glu Lys Leu Gly Lys Cys Ile Ile Ile Asn Asn Lys Asn Phe Asp Lys  
65 70 75 80

Val Thr Gly Met Gly Val Arg Asn Gly Thr Asp Lys Asp Ala Glu Ala  
85 90 95

Leu Phe Lys Cys Phe Arg Ser Leu Gly Phe Asp Val Ile Val Tyr Asn  
100 105 110

Asp Cys Ser Cys Ala Lys Met Gln Asp Leu Leu Lys Lys Ala Ser Glu  
115 120 125

Glu Asp His Thr Asn Ala Ala Cys Phe Ala Cys Ile Leu Leu Ser His  
130 135 140

Gly Glu Glu Asn Val Ile Tyr Gly Lys Asp Gly Val Thr Pro Ile Lys  
145 150 155 160

Asp Leu Thr Ala His Phe Arg Gly Asp Arg Cys Lys Thr Leu Leu Glu  
165 170 175

Lys Pro Lys Leu Phe Phe Ile Gln Ala Cys Arg Gly Thr Glu Leu Asp  
180 185 190

Asp Gly Ile Gln Ala Asp Ser Gly Pro Ile Asn Asp Thr Asp Ala Asn  
195 200 205

Pro Arg Tyr Lys Ile Pro Val Glu Ala Asp Phe Leu Phe Ala Tyr Ser  
210 215 220

Thr Val Pro Gly Tyr Tyr Ser Trp Arg Ser Pro Gly Arg Gly Ser Trp  
225 230 235 240

Phe Val Gln Ala Leu Cys Ser Ile Leu Glu Glu His Gly Lys Asp Leu  
245 250 255

Glu Ile Met Gln Ile Leu Thr Arg Val Asn Asp Arg Val Ala Arg His  
260 265 270

Phe Glu Ser Gln Ser Asp Asp Pro His Phe His Glu Lys Lys Gln Ile  
275 280 285

Pro Cys Val Val Ser Met Leu Thr Lys Glu Leu Tyr Phe Ser Gln  
290 295 300

<210> 101  
<211> 479  
<212> PRT  
<213> Homo sapiens

<400> 101  
Met Asp Phe Ser Arg Asn Leu Tyr Asp Ile Gly Glu Gln Leu Asp Ser  
1 5 10 15

Glu Asp Leu Ala Ser Leu Lys Phe Leu Ser Leu Asp Tyr Ile Pro Gln  
20 25 30

Arg Lys Gln Glu Pro Ile Lys Asp Ala Leu Met Leu Phe Gln Arg Leu  
35 40 45

Gln Glu Lys Arg Met Leu Glu Glu Ser Asn Leu Ser Phe Leu Lys Glu  
50 55 60

Leu Leu Phe Arg Ile Asn Arg Leu Asp Leu Leu Ile Thr Tyr Leu Asn  
65 70 75 80

Thr Arg Lys Glu Glu Met Glu Arg Glu Leu Gln Thr Pro Gly Arg Ala  
85 90 95

Gln Ile Ser Ala Tyr Arg Val Met Leu Tyr Gln Ile Ser Glu Glu Val  
100 105 110

Ser Arg Ser Glu Leu Arg Ser Phe Lys Phe Leu Leu Gln Glu Glu Ile  
115 120 125

Ser Lys Cys Lys Leu Asp Asp Asp Met Asn Leu Leu Asp Ile Phe Ile  
130 135 140

Glu Met Glu Lys Arg Val Ile Leu Gly Glu Gly Lys Leu Asp Ile Leu  
145 150 155 160

Lys Arg Val Cys Ala Gln Ile Asn Lys Ser Leu Leu Lys Ile Ile Asn  
165 170 175

Asp Tyr Glu Glu Phe Ser Lys Glu Arg Ser Ser Ser Leu Glu Gly Ser  
180 185 190

Pro Asp Glu Phe Ser Asn Gly Glu Glu Leu Cys Gly Val Met Thr Ile  
195 200 205

Ser Asp Ser Pro Arg Glu Gln Asp Ser Glu Ser Gln Thr Leu Asp Lys  
210 215 220

Val Tyr Gln Met Lys Ser Lys Pro Arg Gly Tyr Cys Leu Ile Ile Asn  
225 230 235 240

Asn His Asn Phe Ala Lys Ala Arg Glu Lys Val Pro Lys Leu His Ser  
245 250 255

Ile Arg Asp Arg Asn Gly Thr His Leu Asp Ala Gly Ala Leu Thr Thr  
260 265 270

Thr Phe Glu Glu Leu His Phe Glu Ile Lys Pro His Asp Asp Cys Thr  
275 280 285

Val Glu Gln Ile Tyr Glu Ile Leu Lys Ile Tyr Gln Leu Met Asp His  
290 295 300

Ser Asn Met Asp Cys Phe Ile Cys Cys Ile Leu Ser His Gly Asp Lys  
305 310 315 320

Gly Ile Ile Tyr Gly Thr Asp Gly Gln Glu Ala Pro Ile Tyr Glu Leu  
325 330 335

Thr Ser Gln Phe Thr Gly Leu Lys Cys Pro Ser Leu Ala Gly Lys Pro  
340 345 350

Lys Val Phe Phe Ile Gln Ala Cys Gln Gly Asp Asn Tyr Gln Lys Gly  
355 360 365

Ile Pro Val Glu Thr Asp Ser Glu Glu Gln Pro Tyr Leu Glu Met Asp  
370 375 380

Leu Ser Ser Pro Gln Thr Arg Tyr Ile Pro Asp Glu Ala Asp Phe Leu  
385 390 395 400

Leu Gly Met Ala Thr Val Asn Asn Cys Val Ser Tyr Arg Asn Pro Ala  
405 410 415

Glu Gly Thr Trp Tyr Ile Gln Ser Leu Cys Gln Ser Leu Arg Glu Arg  
420 425 430

Cys Pro Arg Gly Asp Asp Ile Leu Thr Ile Leu Thr Glu Val Asn Tyr  
435 440 445

Glu Val Ser Asn Lys Asp Asp Lys Lys Asn Met Gly Lys Gln Met Pro  
450 455 460

Gln Pro Thr Phe Thr Leu Arg Lys Lys Leu Val Phe Pro Ser Asp  
465 470 475

<210> 102  
<211> 416  
<212> PRT  
<213> Homo sapiens

<400> 102  
Met Asp Glu Ala Asp Arg Arg Leu Leu Arg Arg Cys Arg Leu Arg Leu  
1 5 10 15

Val Glu Glu Leu Gln Val Asp Gln Leu Trp Asp Ala Leu Leu Ser Ser  
20 25 30

Glu Leu Phe Arg Pro His Met Ile Glu Asp Ile Gln Arg Ala Gly Ser  
35 40 45

Gly Ser Arg Arg Asp Gln Ala Arg Gln Leu Ile Ile Asp Leu Glu Thr  
50 55 60

Arg Gly Ser Gln Ala Leu Pro Leu Phe Ile Ser Cys Leu Glu Asp Thr  
65 70 75 80

Gly Gln Asp Met Leu Ala Ser Phe Leu Arg Thr Asn Arg Gln Ala Ala  
85 90 95

Lys Leu Ser Lys Pro Thr Leu Glu Asn Leu Thr Pro Val Val Leu Arg  
100 105 110

Pro Glu Ile Arg Lys Pro Glu Val Leu Arg Pro Glu Thr Pro Arg Pro  
115 120 125

Val Asp Ile Gly Ser Gly Phe Gly Asp Val Gly Ala Leu Glu Ser  
130 135 140

Leu Arg Gly Asn Ala Asp Leu Ala Tyr Ile Leu Ser Met Glu Pro Cys  
145 150 155 160

Gly His Cys Leu Ile Ile Asn Asn Val Asn Phe Cys Arg Glu Ser Gly  
165 170 175

Leu Arg Thr Arg Thr Gly Ser Asn Ile Asp Cys Glu Lys Leu Arg Arg  
180 185 190

Arg Phe Ser Ser Pro His Phe Met Val Glu Val Lys Gly Asp Leu Thr  
195 200 205

Ala Lys Lys Met Val Leu Ala Leu Leu Glu Leu Ala Gln Gln Asp His  
210 215 220

Gly Ala Leu Asp Cys Cys Val Val Ile Leu Ser His Gly Cys Gln  
225 230 235 240

Ala Ser His Leu Gln Phe Pro Gly Ala Val Tyr Gly Thr Asp Gly Cys  
245 250 255

Pro Val Ser Val Glu Lys Ile Val Asn Ile Phe Asn Gly Thr Ser Cys  
260 265 270

Pro Ser Leu Gly Gly Lys Pro Lys Leu Phe Phe Ile Gln Ala Cys Gly

275

280

285

Gly Glu Gln Lys Asp His Gly Phe Glu Val Ala Ser Thr Ser Pro Glu  
290 295 300

Asp Glu Ser Pro Gly Ser Asn Pro Glu Pro Asp Ala Thr Pro Phe Gln  
305 310 315 320

Glu Gly Leu Arg Thr Phe Asp Gln Leu Asp Ala Ile Ser Ser Leu Pro  
325 330 335

Thr Pro Ser Asp Ile Phe Val Ser Tyr Ser Thr Phe Pro Gly Phe Val  
340 345 350

Ser Trp Arg Asp Pro Lys Ser Gly Ser Trp Tyr Val Glu Thr Leu Asp  
355 360 365

Asp Ile Phe Glu Gln Trp Ala His Ser Glu Asp Leu Gln Ser Leu Leu  
370 375 380

Leu Arg Val Ala Asn Ala Val Ser Val Lys Gly Ile Tyr Lys Gln Met  
385 390 395 400

Pro Gly Cys Phe Asn Phe Leu Arg Lys Lys Leu Phe Phe Lys Thr Ser  
405 410 415

<210> 103

<211> 521

<212> PRT

<213> Homo sapiens

<400> 103

Met Lys Ser Gln Gly Gln His Trp Tyr Ser Ser Ser Asp Lys Asn Cys  
1 5 10 15

Lys Val Ser Phe Arg Glu Lys Leu Leu Ile Ile Asp Ser Asn Leu Gly  
20 25 30

Val Gln Asp Val Glu Asn Leu Lys Phe Leu Cys Ile Gly Leu Val Pro  
35 40 45

Asn Lys Lys Leu Glu Lys Ser Ser Ser Ala Ser Asp Val Phe Glu His  
50 55 60

Leu Leu Ala Glu Asp Leu Leu Ser Glu Glu Asp Pro Phe Phe Leu Ala  
65 70 75 80

Glu Leu Leu Tyr Ile Ile Arg Gln Lys Lys Leu Leu Gln His Leu Asn  
85 90 95

Cys Thr Lys Glu Glu Val Glu Arg Leu Leu Pro Thr Arg Gln Arg Val  
100 105 110

Ser Leu Phe Arg Asn Leu Leu Tyr Glu Leu Ser Glu Gly Ile Asp Ser  
115 120 125

Glu Asn Leu Lys Asp Met Ile Phe Leu Leu Lys Asp Ser Leu Pro Lys  
130 135 140

Thr Glu Met Thr Ser Leu Ser Phe Leu Ala Phe Leu Glu Lys Gln Gly  
145 150 155 160

Lys Ile Asp Glu Asp Asn Leu Thr Cys Leu Glu Asp Leu Cys Lys Thr

165	170	175
Val Val Pro Lys Leu Leu Arg Asn Ile Glu Lys Tyr Lys Arg Glu Lys		
180	185	190
Ala Ile Gln Ile Val Thr Pro Pro Val Asp Lys Glu Ala Glu Ser Tyr		
195	200	205
Gln Gly Glu Glu Glu Leu Val Ser Gln Thr Asp Val Lys Thr Phe Leu		
210	215	220
Glu Ala Leu Pro Gln Glu Ser Trp Gln Asn Lys His Ala Gly Ser Asn		
225	230	235
Gly Asn Arg Ala Thr Asn Gly Ala Pro Ser Leu Val Ser Arg Gly Met		
245	250	255
Gln Gly Ala Ser Ala Asn Thr Leu Asn Ser Glu Thr Ser Thr Lys Arg		
260	265	270
Ala Ala Val Tyr Arg Met Asn Arg Asn His Arg Gly Leu Cys Val Ile		
275	280	285
Val Asn Asn His Ser Phe Thr Ser Leu Lys Asp Arg Gln Gly Thr His		
290	295	300
Lys Asp Ala Glu Ile Leu Ser His Val Phe Gln Trp Leu Gly Phe Thr		
305	310	315
Val His Ile His Asn Asn Val Thr Lys Val Glu Met Glu Met Val Leu		
325	330	335
Gln Lys Gln Lys Cys Asn Pro Ala His Ala Asp Gly Asp Cys Phe Val		
340	345	350
Phe Cys Ile Leu Thr His Gly Arg Phe Gly Ala Val Tyr Ser Ser Asp		
355	360	365
Glu Ala Leu Ile Pro Ile Arg Glu Ile Met Ser His Phe Thr Ala Leu		
370	375	380
Gln Cys Pro Arg Leu Ala Glu Lys Pro Lys Leu Phe Phe Ile Gln Ala		
385	390	395
Cys Gln Gly Glu Ile Gln Pro Ser Val Ser Ile Glu Ala Asp Ala		
405	410	415
Leu Asn Pro Glu Gln Ala Pro Thr Ser Leu Gln Asp Ser Ile Pro Ala		
420	425	430
Glu Ala Asp Phe Leu Leu Gly Leu Ala Thr Val Pro Gly Tyr Val Ser		
435	440	445
Phe Arg His Val Glu Glu Gly Ser Trp Tyr Ile Gln Ser Leu Cys Asn		
450	455	460
His Leu Lys Lys Leu Val Pro Arg Met Leu Lys Phe Leu Glu Lys Thr		
465	470	475
Met Glu Ile Arg Gly Arg Lys Arg Thr Val Trp Gly Ala Lys Gln Ile		
485	490	495
Ser Ala Thr Ser Leu Pro Thr Ala Ile Ser Ala Gln Thr Pro Arg Pro		

500

505

510

Pro Met Arg Arg Trp Ser Ser Val Ser  
515 520

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<211> 377  
<212> PRT  
<213> Homo sapiens

<400> 104  
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Leu Gly Lys Glu Leu Ile Ser Gly Leu Leu Asp Asp Phe Val Glu Lys  
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Asn Val Leu Lys Leu Glu Glu Glu Lys Lys Ile Tyr Asp Ala  
35 40 45  
Lys Leu Gln Asp Lys Ala Arg Val Leu Val Asp Ser Ile Arg Gln Lys  
50 55 60  
Asn Gln Glu Ala Gly Gln Val Phe Val Gln Thr Phe Leu Asn Ile Asp  
65 70 75 80  
Lys Asn Ser Thr Ser Ile Lys Ala Pro Glu Glu Thr Val Ala Gly Pro  
85 90 95  
Asp Glu Ser Val Gly Ser Ala Ala Thr Leu Lys Leu Cys Pro His Glu  
100 105 110  
Glu Phe Leu Lys Leu Cys Lys Glu Arg Ala Gly Glu Ile Tyr Pro Ile  
115 120 125  
Lys Glu Arg Lys Asp Arg Thr Arg Leu Ala Leu Ile Ile Cys Asn Thr  
130 135 140  
Glu Phe Asp His Met Pro Pro Arg Asn Gly Ala Ala Leu Asp Ile Leu  
145 150 155 160  
Gly Met Lys Gln Leu Leu Glu Gly Leu Gly Tyr Thr Val Glu Val Glu  
165 170 175  
Glu Lys Leu Thr Ala Arg Asp Met Glu Ser Val Leu Trp Lys Phe Ala  
180 185 190  
Ala Arg Glu Glu His Lys Ser Ser Asp Ser Thr Phe Leu Val Phe Met  
195 200 205  
Ser His Gly Ile Leu Asp Gly Ile Cys Gly Thr Met His Ser Glu Glu  
210 215 220  
Glu Pro Asp Val Leu Pro Tyr Asp Thr Ile Phe Arg Thr Phe Asn Asn  
225 230 235 240  
Arg Asn Cys Leu Ser Leu Lys Asp Lys Pro Lys Val Ile Ile Val Gln  
245 250 255  
Ala Cys Arg Gly Ala Asn Arg Gly Glu Leu Trp Val Ser Asp Ser Pro

260	265	270
Pro Ala Leu Ala Asp Ser Phe Ser Gln Ser Ser Glu Asn Leu Glu Glu		
275	280	285
Asp Ala Val Tyr Lys Thr His Val Glu Lys Asp Phe Ile Ala Phe Cys		
290	295	300
Ser Ser Thr Pro His Asn Val Ser Trp Arg Asp Ile Lys Lys Gly Ser		
305	310	315
Leu Phe Ile Thr Arg Leu Ile Thr Cys Phe Gln Lys Tyr Ala Trp Cys		
325	330	335
Cys His Leu Glu Glu Val Phe Arg Lys Val Gln Gln Ser Phe Glu Lys		
340	345	350
Pro Asn Val Lys Ala Gln Met Pro Thr Val Glu Arg Leu Ser Met Thr		
355	360	365
Arg Tyr Phe Tyr Leu Phe Pro Gly Asn		
370	375	
<210> 105		
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<213> Homo sapiens		
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Met Ser Asn Pro Arg Ser Leu Glu Glu Lys Tyr Asp Met Ser Gly		
1	5	10
		15
Ala Arg Leu Ala Leu Ile Leu Cys Val Thr Lys Ala Arg Glu Gly Ser		
20	25	30
Glu Glu Asp Leu Asp Ala Leu Glu His Met Phe Arg Gln Leu Arg Phe		
35	40	45
Glu Ser Thr Met Lys Arg Asp Pro Thr Ala Glu Gln Phe Gln Glu Glu		
50	55	60
Leu Glu Lys Phe Gln Gln Ala Ile Asp Ser Arg Glu Asp Pro Val Ser		
65	70	75
		80
Cys Ala Phe Val Val Leu Met Ala His Gly Arg Glu Gly Phe Leu Lys		
85	90	95
Gly Glu Asp Gly Glu Met Val Lys Leu Glu Asn Leu Phe Glu Ala Leu		
100	105	110
Asn Asn Lys Asn Cys Gln Ala Leu Arg Ala Lys Pro Lys Val Tyr Ile		
115	120	125
Ile Gln Ala Cys Arg Gly Glu Gln Arg Asp Pro Gly Glu Thr Val Gly		
130	135	140
Gly Asp Glu Ile Val Met Val Ile Lys Asp Ser Pro Gln Thr Ile Pro		
145	150	155
		160
Thr Tyr Thr Asp Ala Leu His Val Tyr Ser Thr Val Glu Gly Tyr Ile		
165	170	175

Ala Tyr Arg His Asp Gln Lys Gly Ser Cys Phe Ile Gln Thr Leu Val  
180 185 190

Asp Val Phe Thr Lys Arg Lys Gly His Ile Leu Glu Leu Leu Thr Glu  
195 200 205

Val Thr Arg Arg Met Ala Glu Ala Glu Leu Val Gln Glu Gly Lys Ala  
210 215 220

Arg Lys Thr Asn Pro Glu Ile Gln Ser Thr Leu Arg Lys Arg Leu Tyr  
225 230 235 240

Leu Gln